
HORSE-BREEDING

FOR FARMERS

ALFRED E. PEASE



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BY

ALFRED E. PEASE

AUTHOR OF "THE CLEVELAND HOUNDS AS A TRENCHER-FED PACK," ETC.

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CHAPTER I

INTRODUCTION

THE object of this book is to show the British farmer who has not yet seriously attempted the breeding of horses as part of his business that horse-breeding is a profitable pursuit, that it can be practised with general benefit to other departments of the farm, and that it may, if wisely followed, do much to mitigate the hard lot of the agriculturist, suffering as he is at present from bad seasons and low prices. With this end in view the various breeds of English horses will be considered with regard to their adaptability to the farm. The manner in which sires and dams should be mated, the treatment of in-foal mares and foaling mares, the way in which young stock should be brought to maturity and marketed, will be amongst the subjects dealt with, always giving full weight to the requirements of the farm and to that economy which, in such times as these, every tenant-farmer is bound to consider and to practise.

The greater portion of the book was originally written during a prolonged stay in Algeria in 1892-93,

and naturally I touched upon some of the lessons to be learnt from the Arabs amongst whom I was sojourning. I mention this as an excuse for leaving unaltered certain passages which may appear to deal with matters somewhat foreign to the subject in hand. One of our national faults, due to our insular prejudices and to that self-confidence which has nevertheless done so much for our race throughout the world, has been our slowness to learn lessons from abroad. We have for so long been the schoolmasters of Europe in all equine matters, that it is difficult for us to believe that we can learn anything, or have anything to fear from the foreigner. But other countries have been learning from us in a few years the knowledge we have gained through two centuries of experimental experience. Other nations have been taking our best blood to put into practice the lessons we have taught. Now we are waking up to find that in some respects the pupils have beaten their masters, and are able to compete successfully in many directions with us in the horse markets of the world, and we are warned that we must look to our laurels.

It is not too much to say that the French, Germans, Belgians, Russians, and Hungarians have already flogged us in the general carriage horse, omnibus horse, and tram horse trades. Germany and France have long devoted attention and public money to the production of superior classes of these animals, and the great majority of the better bays and browns for harness work in London and elsewhere now come from these countries. Many have the idea, for instance, that the Frenchman knows

little about horses ; yet I say, without fear of contradiction from any one who has had experience of them, that in some respects their knowledge is superior to our own. Take, for example, the scientific aspect of horse-breeding, or veterinary science. In the latter case the average French *vétérinaire* is a far neater and far more carefully trained and skilful operator than his English *confrère*. Far too often the English "vet." is a rough man with rough ways, who presents himself with a few dirty knives or locally-made instruments in his pockets, and proceeds with unwashed hands to operate, as if less delicacy and cleanliness were necessary in the case of a horse than in that of a human being. Contrast such a condition of things with that which exists in France or even in Algeria, where such "vets." as I have seen were not a bit behind the surgeon in the manner of dealing with the animal under their charge. Under such men a cure is more certain and much more rapid, to say nothing of the alleviation of suffering, than under the rough and horny-handed man with a dirty knife. I have often wondered how it is that in these days, when it is said to be so difficult to find a profession for young men, this important and honourable one does not obtain more recruits from amongst the higher ranks of society. There is no doubt that in 'this country, as abroad, if we had more highly-trained, clever, and neat practitioners, they, in many districts, could make a better living than the average country doctor, besides being an incalculable influence for good.

It is not part of my purpose to dwell either on the Arab or the English Thoroughbred, beyond using

the history of these breeds to illustrate the science of breeding.

Scientifically speaking, there is no such animal in existence as a thoroughbred horse. The term is only relative, and indicates that inbreeding and interbreeding have been restricted within certain limits during a number of generations.

The mistaken idea is still prevalent in some quarters that the "pure" Arab horse is *the* one thoroughbred horse, cast in the same mould as the first created one, retaining the same original qualities without deterioration or alteration, and the eternal prototype of the species ;—that as he was in the beginning, so he is and ever shall be,—or, as some French writers have described him, the "natural horse" (*cheval de la nature*). No,—no one has yet discovered where the original ancestor of the horse lived, or what the equine father Adam was like.

The cradle of the species may have been in Tartary, Siberia, or in America, but certainly not in Arabia. It is certain that the horse could not live in Arabia without the attention and care of man. Perhaps in no country is the horse more dependent on his owner for water and food. It is indisputable, however, that the Arab horse is the result of cultivation of the inferior original type or types through thousands of years under favourable conditions. No one can doubt but that the Orientals had brought the horse to a degree of perfection long before his history was written. In the time of Mohammed, of course, he had reached a very high development, and hence the preference shown by the Prophet to him above all animals in creation. Ages before, he must

have been a noble animal, possessing beauty, strength, and quality, as no one can doubt who reads the Book of Job.

Hast thou given the horse *his* might ? Hast thou clothed his neck with the quivering mane ?

Hast thou made him to leap as a locust ? The glory of his snorting is terrible.

He paweth in the valley, and rejoiceth in his strength : he goeth out to meet the armed men.

He mocketh at fear, and is not dismayed ; neither turneth he back from the sword.

The quiver rattleth against him, the flashing spear and the javelin.

He swalloweth the ground with fierceness and rage ; neither believeth he that it is the voice of the trumpet.

As oft as the trumpet *soundeth* he saith Aha ! And he smelleth the battle afar off, the thunder of the captains, and the shouting.

JOB xxxix. 19-25.

From a practical point of view, the Arab may be regarded as the one pure race in the world, having become saturated with his peculiar and superior qualities by centuries of inbreeding under careful selection. The impressiveness of the Arab sire is due (and this is mentioned in order to guide those who desire to maintain or cultivate other "pure breeds") to—

- (1) The jealous care bestowed in selection and mating during hundreds of generations.
- (2) The conditions of his life and habits—bred for one trade, namely, to be the war-horse of the desert, he must have strength, pace, endurance.
- (3) The purity of the air and climate, as well as the wonderful pasture of the Euphrates valley, which assisted in no small degree his development. We find that even in some

minor details the Arabs of to-day may teach us something, and that the Arab horse, if inferior in size and pace, has other qualities in which, for cavalry purposes at least, he is superior to our own. Our horses would be better if they had more of the endurance, the hardihood, and the wear-and-tear qualities of these wiry "drinkers of the air." A French cavalry, Arab, or Barb horse will carry above 24 stones on a military expedition, counting his rider, accoutrements, arms, and five days' provisions; and is required to do it equally under a hot sun in the sand of the desert, or on rocky ground amongst the snow-clad mountains.¹

¹ The following is a table given by General E. Daumas as to the regulation allowance of weight carried by an Algerian trooper. I give it as it stands, an order, given by Colonel Düringer, on the departure of a column.

POIDS PORTÉ PAR LE CHEVAL D'UN CHASSEUR D'AFRIQUE
PARTANT EN EXPÉDITION.

(Weight carried by the horse of a Chasseur d'Afrique departing on service.)

| | Kilogr. (1 kilogr. = 2.046 lbs.) | Hectogr. (3.527 oz.) | Décagr. (.353 oz.) |
|--|--|-------------------------|-----------------------|
| (Trooper) Cavalier armé et en tenue . . . | 82 | 0 | 0 |
| (Accoutrements) Harnachement avec le pistolet | 24 | 0 | 0 |
| (Bread) Pain pour 2 jours | 1 | 5 | 0 |
| (Biscuit) Biscuit pour 3 jours | 1 | 6 | 5 |
| (Coffee) Café pour 5 jours | 0 | 6 | 0 |
| (Sugar) Sucre pour 5 jours | 0 | 6 | 0 |
| (Bacon) Lard pour 5 jours | 1 | 0 | 0 |
| (Rice) Riz pour 5 jours | 0 | 3 | 0 |
| (Salt) Sel | 0 | 0 | 8 |
| (Forage) Fourage roulé pour 5 jours . . . | 25 | 0 | 0 |
| (Barley) Orge pour 5 jours | 20 | 0 | 0 |
| (Cartridges) Trois paquets de car- touches | 1 | 3 | 0 |
| (Shoes) Quatre fers | 1 | 6 | 0 |
| | 159 | 6 | 3 = about 352 lbs. |

This weight is 19 kilos. more than a carabineer's horse and 26 more than a cuirassier's horse carries in France.

- (4) The high place always accorded him in religious writings and by religious teachers amongst the Mohammedan peoples.

Before I formally enter on my subject, I would commence by expressing a hope that my readers may experience the blessings Mohammed has promised to all lovers of horse-flesh in the following description of the creation of the horse, taken from the Prophet's *Conversations* :—

And God said unto the south wind, "I will bring out from thee a creature. Be thou condensed." And the wind was condensed. Then came the Angel Gabriel and took a handful of this material and brought it before God, who formed therewith a horse—bay, with black points. And the Lord cried, "I have called thee a horse ('frass,' signifying pride). I have made thee Arabian, and given thee the colour of bay. I have given happiness to the hairs that fall between thine eyes ; thou shalt be blessed above all other animals ; men shall follow thee wheresoever thou goest. Fitted for pursuit, as for flight, thou fliest without wings. *On thy back lieth wealth, and through thee riches are increased.*" And the Lord placed upon his forehead a star for a sign of glory and happiness.

It is scarcely necessary to warn any one so taught by hard experience as the farmer that success in any undertaking on the land depends on personal attention, care, and thought. The man who would breed horses with satisfaction and profit must take as much trouble and expend as much time as in any other branch of agriculture ; and though those who are ready to do this may no doubt suffer vexations, disappointments, and make mistakes such as attach to all human efforts, yet they will derive a greater interest and a greater profit in the raising of horses

than in any other branch of stock-rearing, if they pursue it with intelligence, care, and perseverance.

If we consult the returns of the Board of Agriculture, it will be seen that each year shows a tendency towards increase in the number of horses imported to this country. Thousands of good serviceable foreign horses are sold in England annually. An idea of the number thus sold will be gained from the following figures :—

| | | | | | | | No. of horses imported. |
|------|---|---|---|---|---|---|----------------------------|
| 1841 | . | . | . | . | . | . | 339 |
| 1851 | . | . | . | . | . | . | 3,443 |
| 1861 | . | . | . | . | . | . | 1,595 |
| 1871 | . | . | . | . | . | . | 3,448 |
| 1881 | . | . | . | . | . | . | 9,950 |
| 1891 | . | . | . | . | . | . | 21,715 |
| 1892 | . | . | . | . | . | . | 21,026 |

The great majority of carriage horses to-day are foreigners, nearly all the omnibus and tram horses are from abroad, and many hundreds of trappers, vanners, cart horses, trolly horses, cab horses, etc., are brought from the Continent to supply the enormous and ever-increasing demand in our large towns and great centres of industry. Even the Queen's stables are full of horses from Oldenburg and other horse-breeding districts of Germany and Prussia, and the majority of the high-priced horses seen in the London season in the carriages in Hyde Park are foreign importations. Is it not time to put the question—How is it that we leave it to the Frenchman, the German, the American, the Belgian, and the Dutchman to supply our Queen, our nobility and gentry, our brewers, millers, tradesmen, and the millions who

travel by tram and omnibus, with horses for their work? Why should all these hundreds of thousands of pounds go into the pockets of the foreign breeder and importer? Are not our pastures, is not our climate, are not our native breeds, more suitable? and have we not the best markets at our door? These last questions are answered for us by the foreigner, who breeds to sell here, and buys from us the foundation to improve and recuperate his native stock. Who is to find the remedy for this condition of things? Surely the British farmer. And it is no unkindness to tell him that he ought to be ashamed of himself for not attempting to secure a share of the piles of gold that are being held out at home and abroad to be exchanged for good, sound, serviceable horses, fitted for every trade.

I can picture a reader saying, "But we *do* export great numbers of horses." Yes, we do; but look once again at the returns of the Board of Agriculture, and it will be seen how few we sell abroad in comparison to those we buy abroad, and how great is the difference in their average values.

| | No. of horses exported. | | | | | |
|------|----------------------------|---|---|---|---|--------|
| 1841 | . | . | . | . | . | 4,538 |
| 1851 | . | . | . | . | . | 1,526 |
| 1861 | . | . | . | . | . | 2,960 |
| 1871 | . | . | . | . | . | 7,172 |
| 1881 | . | . | . | . | . | 6,108 |
| 1891 | . | . | . | . | . | 11,238 |
| 1892 | . | . | . | . | . | 11,232 |

The value of the horses imported in 1892 was £425,336, or £20:4:10 per head; and of those exported, £563,097:12s., or £50:2:8 per head.

And what are the horses we send away all over the world? Stallions and mares form an enormous proportion. In 1892 there were 872 stallions exported; in 1891, 1103; in 1890, 2308. In 1892, 3015 mares were exported; in 1891, 3436; in 1890, 4156. Of the 21,026 horses imported in 1892, 17,147 were geldings. What does this mean? Nothing else but that we are selling the picked sires and mares of our best breeds to supply the foreigner with the necessary and indispensable material to produce the article he sells in the British market. What are the horses we import from Normandy, Hanover, Mecklenburg, Oldenburg, and even from America? They are the horses got by exported English sires or out of exported English dams. The American carriage horses are the best—the result of great and long-continued importations of English blood into the States. The Oldenburg horses that draw the Queen's carriages are of the Yorkshire bay or Cleveland type bred in Germany. So, examine the problem how we will, we are driven to the humiliating confession that we have allowed the foreigner to do to our loss what we could have done to our profit, and that which could be done more easily and successfully at home.

One of the curious things that strike the inquirer into this subject is that in certain parts of the United Kingdom the farmer is a horse-breeder, and in other parts naturally more favoured and nearer the markets, he seems to know and care little about it. Ireland contains perhaps the best horse-breeding districts; and high-priced, well-bred young

Irish carriage horses and hunters are bred by small farmers who would be poor men but for this source of income. Why is the average Irish half-bred or hunter superior to the English half-bred or hunter? In my judgment it is the sense, knowledge, and appreciation of the breeder rather than anything in soil or climate that gives the Irish horse his well-deserved name for substance, quality, and hardihood. The Irish breeder knows that there is no more valuable animal than a strong, well-bred horse, and he sets himself to produce one full of activity, quality, and strength. By avoiding hairy-legged mares, and by using the best sires he can obtain, he succeeds in turning out the best and hardiest carriage horses and hunters. I regard the average superiority of Irish half-breds over English as being due to their keeping clear of cart blood.

Many English farmers make the mistake of thinking that they can breed good half-breds off cart mares. Here and there there may be a high-couraged cart mare with quality that may breed a useful half-bred, but cart mares had far better be kept for the propagation of their own kind. I have little hesitation in saying that 80 per cent of English weight-carriers are bred this way; and a more ugly, unsatisfactory, dangerous, slovenly, faint-hearted animal than the average English weight-carrier it is hard to imagine; and for real wear-and-tear harness work the carting strain is equally bad. Such horses not only soon work out their legs and lives in fast work on hard roads, but wear out their drivers' whipcord and temper into the bargain.

The Irish and American carriage horses, free

from all cross of cart blood, can do more work, do it faster, do it more cheerfully and courageously, and will wear far longer than the carriage horse which has that cross of cart blood which, if even two generations back, will show itself in gradual loss of courage, in fast work, and general want of bottom and wearing qualities. Whilst the Irish and Americans can beat us with the average half-bred, there is nothing to compare with the Yorkshire bay horse and the best Yorkshire hackneys; indeed the most praiseworthy examples of horse-breeding are probably in Yorkshire, Cumberland, and Durham. But when these counties, with the addition of Northumberland, Lincolnshire, Northamptonshire, Norfolk, Cambridgeshire, Suffolk, and Devonshire, have been mentioned, you have almost exhausted the real horse-breeding counties. And yet there are grass counties far exceeding in their proportion of grass to arable some of those I have mentioned, such as Cheshire, Wiltshire, and the Midlands generally, where very little is done by the ordinary farmer to take advantage of the natural facilities he has.

Even in the north, in those districts where horse-breeding is general, there are so much carelessness, so much want of thought, so much happy-go-lucky sort of breeding, so much undersized rubbish, and so many unsound horses reared, which, with just a little more forethought, might have been valuable, that even the north-countryman has something to do if he desires to encourage and partake of a profitable trade in horses. You will find in the best districts some men who do not breed at all, others who breed rubbish from valuable mares, others still who

breed and rear good foals, but by mismanagement and bad breaking send them away at unprofitable prices ; all of whom yet continue, year after year, turning out useless, undersized, and unclassed brutes from mere habit. It is preferable even to see this than the custom of not attempting horse-breeding at all. How many farmers use the first horse that passes their gates ! And when a foal has somehow or other been got, they practically leave it to shift for itself, and you may see the unfortunate little animal wandering in a bare pasture, in a tight, staring skin, and as it grows older but not much bigger, huddled in with anything else into some foul and unventilated outhouse, out of which it emerges after its first winter in a half-starved condition, and is then left for a couple of years more to lead a dirty, neglected, half-fed existence. Yet some of these turn out remunerative enough to encourage the breeder (but no true lover of horses) to "chance t' awd mear" again and to let "t' faul tak its chance" after.

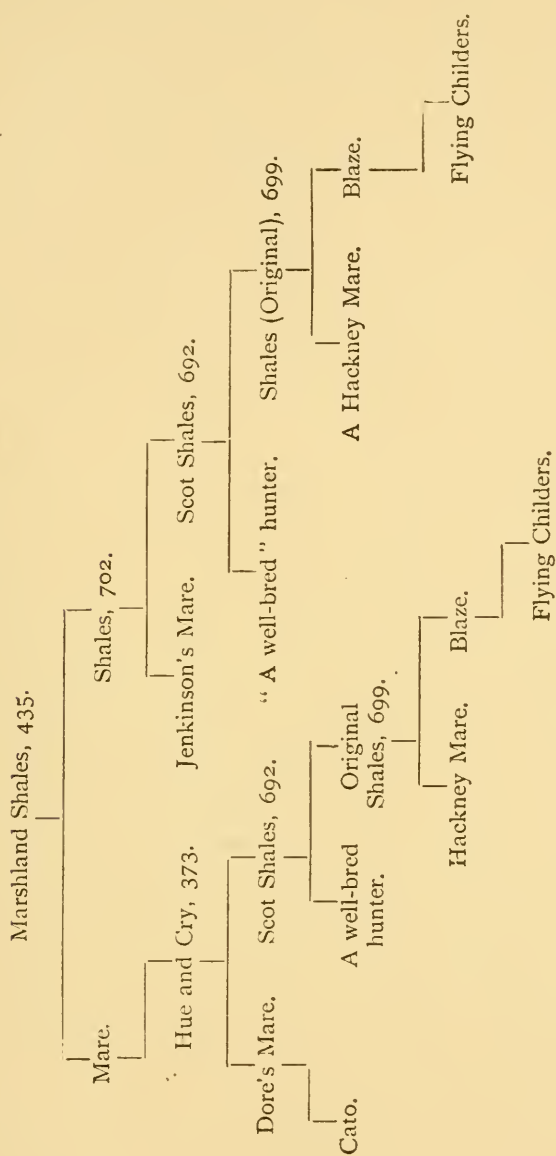
CHAPTER II

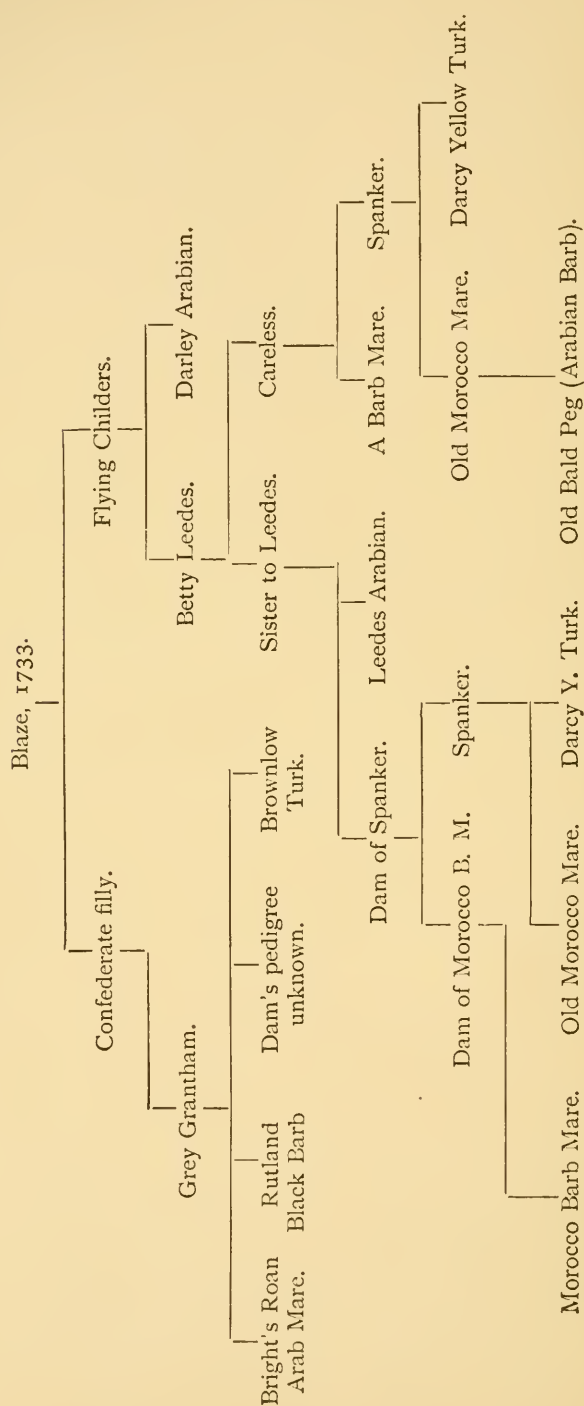
THE ORIENTAL, ENGLISH THOROUGHBRED, AND OTHER BREEDS

THE following is a brief survey of certain foreign breeds of horses that have influenced British breeds in the past, or might be advantageously used to improve certain classes of horses at home.

The Arab and Barb

The influence of the Arab in our country can never be calculated. Centuries ago he was introduced, with the result that most of our native breeds were entirely transformed. If any of the pedigrees of the most noted sires of the past amongst our lighter breeds, such as the founders of the hackney or coach horse, are examined, we find, as far as pedigree is recorded, the undeniable existence of Arab or Oriental blood. It was this cross which remained recorded, the owners of such sires dwelling on the existence of the blood cross as specially recommending the sires they owned. Take, for example, the breeding of the *Original Shales* or *Marshland Shales* in the hackney breed, and it will readily be seen how much Oriental blood there is in





the veins of the Norfolk hackney. Could we know the history of their breeding farther back, it is not too much to suppose that there were other foreign crosses ; but here at least we have the fact that Blaze, the sire of (Original) Shales, was seven-eighths Oriental in blood, and that Flying Childers, the sire of Blaze, was practically purely Oriental in origin.

The cultivation through ages of the pure Arab gave him an impressive power that no other breed has yet attained to, nor ever can till it has gone through ages of similar cultivation and judicious inbreeding.

It is not too much to say that almost every distinguishing characteristic of beauty, endurance, and speed in every horse in Europe is due to the Arab blood. Studied historically, the Arab is the purest and most potential horse ; considered physically and scientifically, the best balanced and proportioned horse ; tried by experience, the most enduring and companionable of man's equine friends ; judged by his intelligence, the most sagacious and docile. Why, then, is he not more used in England ? Partly because we have him and his qualities engrafted to an enormous extent in all our best breeds ; partly because we do not know him as we ought to ; partly because we prefer great pace over a short distance to a fair pace over a long one ; partly because we prefer quantity and size to quality and symmetry. The Arab certainly cannot approach his English "thoroughbred" descendant in respect of speed over a short distance ; no one would be foolish enough to think that he could. The English racehorse is in the main an Arab, with but one of his superior

qualities, that of speed, developed to the utmost. For small horses Arabs may be by no means contemptible racers. Not long ago an Arab on the racecourse at Calcutta covered two miles, carrying 9 stone, in 3 mins. 45 secs. In the race for the Bengal Cup between the two Arabs, Crab and Orranmore, these two horses ran five two-mile heats, carrying 8 stone 7 lbs. The third heat was run in 3 mins. 56 secs. A century ago, stamina and pace were sought after—not stamina over five furlongs, a mile, or even two miles—but the capacity to race several four-mile heats in a single day. This quality, more valuable to man and the future of the half-bred horses of the world, has gradually been sacrificed to mere speed; and there are more improbable things than that the day may come when once more the pure Arab will again be brought into requisition to replenish the failing stock of stamina and soundness. Major-General Tweedie, C.S.I., however, in his great work, *The Arabian Horse*, published in 1894, after impartially examining the question of the adaptability of Oriental blood for the improvement of English breeds, unreservedly puts it to one side.

The Arab has long since reached the perfection required for the trade for which he is intended. His intelligence, docility, and courage, as well as his physical conformation, have been developed to the utmost in order to fit him for the companionship of the warrior of the desert. He possesses resistance, endurance, strength, with the greatest speed consistent with these qualities; and his structure, the result of ages of practical attention, can be demon-

strated scientifically to be a perfect machine of power, pace, and endurance. His hind-quarters are full of propelling power and activity, his forehand is built for reaching over the ground, and the two ends are knit together by a wonderful back and loins; all the levers of the skeleton are adapted in such a manner as to make his construction the acme of mechanical power; the thighs are long, narrow, and closely placed; the top of the quarter is almost level, and the tail is elegantly carried; the shoulders are long and sloping; the withers high, with neck set on prettily; the chest is deep behind the arms, and runs right back under the shorter but well-sprung ribs; the head is very fine, having a wide square forehead, and a full large eye which shines with intelligence and mettle; the lips are thin and small, the nostrils wide, large, and finely chiselled; the ears are long, finely cut, active, and turn in at the points a trifle; the breathing apparatus is well fitted for such a creature, for he has an immense thorax, great lung space, a large larynx and trachea placed between jaws which give plenty of room for inspiration and expiration; his height varies from 14.2 to 15.2.

The Barb is an offshoot, and at present a somewhat deteriorated and enfeebled one, of the Arabian family. In a large degree he partakes of the Arab character, and is probably a mixed descendant of the Arab horses (which entered North Africa since the first Arab conquest under Sidi Okba) and of the pre-existing native Berber breeds, these in their turn, no doubt, having the blood of Phœnician, Punic, and Roman horses in their veins. Here and there a

symmetrical and valuable Barb may be found, but as a race the Barb is at this moment inferior to the Arab. His forehand is often excellent, his hind-quarters generally defective, but he possesses the qualities of great endurance and vitality, of hard limbs and sound constitution. The Barb in other times was a much superior horse, and played an important part in this country, no less than forty-six Barbs having been imported and used as racing sires since the time of James I., including such horses as the Lowther White-legged Barb, the Taffolet Barb, Massey's Black Barb, Burton Barb, and Croft's Bay Barb—whose blood runs in some of the best English Thoroughbreds of the day.

The Godolphin Arabian is by many of the best authorities believed to have been a Barb; but as Mr. Joseph Osborne ("Beacon") says: "Granting that he was either (Arabian or Barb), there is no means of determining whether he was of pure breed or high caste beyond his extraordinary influence on the stud, which has never been surpassed. He therefore forms a remarkable example of the difficulty of ascribing this new equine development to any particular source."

The term Barb covers a wide field. There are in Northern Africa at least three groups of the Barb which have distinct characteristics:—

- (1) The Saharian. A small horse, well proportioned, nicely sprung ribs with a deep wide chest, long sloping shoulder, and good crupper with the tail well set; big long thighs, long muscular forearm, strong clean tendons standing out from the bone,

small feet, the neck properly set, neat head, square muzzle, strong throat, and sharp-cut jaws.

- (2) The Common Barb. Inferior in quality, drooping quarters, long head and ears, but often reaching 15 to 15.2, and even 16 hands in height.
- (3) The Tunisian are big Barbs, well covered with muscle, possessing arched necks, with big long heads, carrying more flesh and showing less quality than the two former classes. Owing to the attempts of the French Government in Algeria to improve the size, appearance, and quality of the Barb by placing English and Anglo-Arab stallions at the free service of the natives and all others, it will soon be difficult to know whether the native horses are pure Barbs or not. There are many who fear that the qualities of wear and tear and endurance on scant nourishment in a trying climate, are now being sacrificed to quality and appearance.

The Thoroughbred

The history of the origin of the English Thoroughbred would be foreign to the object of this book, and yet no work on horse-breeding, however unpretending, can pass altogether unnoticed the race that has given its value to most of our lighter breeds, and which is by far the surest source to go to for renovation and improvement. Let those who wish, learn, as far as it can be learnt,

from such authorities as Joseph Osborne, Count Lehndorff, Frenzel, Goos, and others, whose experience and research have given to the world all the information and data that we are ever likely to possess as to the origin of the Thoroughbred and whence he has acquired his impressive powers. A study of the facts and all the probabilities and possibilities that these works set forth, will entitle the student to have his own opinion on the subject with the best authorities. There seem to be certain points, however, which are established beyond doubt, and these may be briefly noticed.

The English climate, soil, and pastures are favourable to the development of the equine species. English horses, even from the time of Cæsar, have attracted notice. Horse-racing was in vogue during the Roman occupation of these islands, and Arab sires were introduced by the Emperor Severus. In the reign of King John a large number of Eastern sires were imported. Henry VIII. did much to restore the breed of horses, and also used Eastern blood. James I. encouraged racing, and there were imported during his reign, amongst many foreign stallions, eleven Neapolitan "coursers" and a large number of Eastern sires, including the Markham Arabian. The many famous breeds imported at various times from Europe, such as the Andalusian and Neapolitan stallions, were no doubt largely Eastern in origin. Under Charles I. the Eastern blood continued to come in, including the Helmsley Turk. Under Cromwell some more Eastern stallions came into the country, including the White Turk, introduced by the Lord Protector. After the

Restoration, the period commences to which the Thoroughbred is traced. Charles II. imported not only sires but a number of mares, Arab, Barb, and Turk, which went by the name of Royal Mares.

From this time onward for a considerable period there was so great an importation of Eastern blood, that writers at a later period described the origin of the English Thoroughbred as entirely Oriental and as dating from this era.

Under James II. the Lister Turk, and in the reign of William and Mary the Byerly Turk, the Selaby Turk, the Harpur Arabian, the Akaster Turk, and the Honeywood Arabian, left their ineffaceable marks on the breed of racehorses. Under Queen Anne the Darley Arabian arrived in Yorkshire; the Leedes Arabian and 7 other Arabians, 8 Barbs, and 6 Turks are known to have been brought over in 1728. The Godolphin Barb, known as the Godolphin Arabian, was imported from Paris, being the most celebrated Eastern sire ever introduced into this island.

From this outline it will be gathered that Eastern and foreign blood played a great part in the production of the English Thoroughbred, and that the admixture had gone on through centuries previous to James I. There appear in the *General Stud Book* the names of 90 Arab, 46 Barb, 32 Turk, 4 Persian, and 2 "foreign" stallions from the time of James I.

But when all has been said that can be said of the Eastern blood, there remains a great quantity of "native" blood in the English Thoroughbred, the origin of which can never be traced, and which must

have been of a very composite character. Frenzel, in his laborious work, traced every existing Thoroughbred mare to her original ancestress, as recorded in the *General Stud Book*, and we are able from his work to make the following certain deductions :—

That in 1886 there were 4605 Thoroughbred mares in England, and that these were descended from 97 original ancestresses.

That only 14 of these 97 were of pure Eastern blood.

That of these 14, the families descended from 7 were of no importance at the stud or as racers, though one of them is the maternal ancestress of one of the best racing families. That there are left 83 original mares whose origin is unknown.

That the original quantity of unknown blood must remain so, and consequently it can never be ascertained how much of the superiority of the English Thoroughbred is due to Eastern blood and how much to native blood. In other countries with greater facilities for obtaining the highest-caste Eastern sires, and where the experiment of developing Oriental blood by every kind of method and over long periods has been tried, the attempt has hitherto entirely failed in producing anything like an equal to the English Thoroughbred. Hence it would appear probable that the English Thoroughbred owes much to native blood.

That nearly all the most remarkable Thoroughbred sires and winners are to be found amongst the descendants of 3 out of these 97 mares. Three families out of 97 stand out as the most remarkable :—Family 4 contains both the True Blues,

Buzzard, Château Margeaux, Glaucus Lannercost, Pyrrhus the First, Soothsayer, Sir Peter, Stockwell, Flying Dutchman, Velocipede, Master Henry, etc. Family 5 contains Ancaster Starling, Camillus Catton, Grey Momus, Don John, Lord Clifden, Phenomenon, Rustic, Rubens, Selim, Sir Hercules, Voltigeur, etc. Family 11 contains Goldfinder, Spectator, Whisky, Waterloo, Whalebone, Glencoe, Melbourne, Partisan, Bay Middleton, Morel, Cobweb, Lord Lyon, etc.

That all animals of especial excellence are more or less inbred, but that the closeness of this relationship to the common ancestor has its limits, and that the greatest possibility of breeding successfully lies in the fact of sire and dam being four, five, or six degrees removed from their common ancestors (*cf.* Count Lehndorff).

Beyond these *facts* it is reasonable to suppose that the climate, soil, herbage, and water of this country have aided man in his conscious and unconscious efforts to improve and perfect the race-horse. That the prepotency, or power of transmitting its qualities, inherent in the English Thoroughbred is due to (1) the amount of Eastern blood, the most potent because the bluest and purest in the world, in his veins; (2) the careful inbreeding and selection practised since the inauguration of the Stud Book.

“In breeds of high race, quality, and antiquity, it is the influence of *blood* which is the very foundation and principle of the preservation of the breed. It is the quality which struggles incessantly against any alteration in the type or any deterioration in the structure.

“In common breeds, their *origin* (being plebeian, low, mixed, or unknown) is the source of their imperfections and vices. This origin has a tendency to oppose all other influences, including those of soil, climate, and food, and can only be counteracted or its power minimised by a *constant* weeding out of bad animals, or by introducing the more potent blood of a higher and purer caste” (*vide* the works of Messieurs Moll and Guyot).

Racing and love of a good horse gave us the foundation. The Stud Book has for a century recorded pedigree, and the *Racing Calendar* performance; and whatever the earliest horse was like, it is man that has said, I will have a racehorse, a war horse, a hack, a hunter, a coach horse, a carriage horse, a draught horse, and has proved that it is the “horseman makes the horse.”

In other days the Thoroughbred could be depended on more than at present to transmit soundness and stamina to his half-bred descendants as well as quality; for the racehorse was then required to run long races and repeated heats under heavy weights. He had to be a horse of great power and mature age to support the test, and to this end the Arab blood was called in. Now stamina, soundness, and strength are sacrificed to speed over short distances, and abnormal maturity—with the consequence that the Thoroughbred no longer maintains its reputation for stoutness and soundness; and the user of the blood for getting half-bred stock must carefully select his sires.¹ The Hunters’ Improve-

¹ “There is little doubt the English racehorse of the present day is far more remarkable for speed than for stamina. . . . It may well be,

ment Society and the Royal Commission on Horse-breeding have none too soon come to the aid of the half-bred by helping the breeder to select sound and stout horses.

The remedy for the deterioration in the Thoroughbred is in the hands of the Jockey Club and the public. The old qualities have not yet been destroyed, and the Thoroughbred still retains within itself the power to regain its old reputation, though there are great authorities who consider that it may be necessary to have recourse to Arab blood to restore stoutness and soundness.

The Anglo-Arabian

The Anglo-Arabian is a Continental breed that deserves some attention from British breeders.

The creation of this breed was the result of an endeavour to obtain the advantages of English Thoroughbred blood, combined with additional stamina and wear-and-tear qualities, in order to have a source to which the inferior races on the Continent could go for improvement. Foreign breeders recognised

therefore, that the introduction of new strains from the old sources would strengthen the failing quality if only the proper source could be hit upon and properly and perseveringly applied" (*vide* J. Osborne, p. xli).

"My own view . . . is that the English Thoroughbred has palpably degenerated in stamina from several distinct causes. Prominent amongst these (independently of the haphazard manner they are now bred) is that which has had direct effect upon their action and upon their lungs, and by the undue increase of sprint racing and the style of training for it. The 'jumping off' tactics, which have come to be considered as an important item in the training curriculum of a two-year-old, have in my belief had a disastrous effect upon the action of our modern racehorses," etc. (*ibid.* p. lxxviii).

the enormous influence and power of English blood ; they saw that this was due to the *General Stud Book* and the *Racing Calendar*—the two peerages of English horse-breeding, one recording purity of lineage and the other measuring its worth and power. But they observed that the modern policy of promoting *pace* at the expense of the other advantages that purity of blood can give, has deprived the English Thoroughbred of a large measure of its use. They, therefore, endeavoured to restore it, and, I think, have succeeded to a large extent in forming a thoroughbred race which has much of the potential influence of the best type of Thoroughbred without its defects in reference to general utility: The Anglo-Arab is full of courage and strength, is hardier than the English Thoroughbred, and more fully developed than the Arab. Less docile than the Arab, he is less fastidious and has fewer needs than the English Thoroughbred, and thrives on inferior nourishment. Probably more time is required than has yet expired for a new breed to produce the stallion that can be absolutely counted on to stamp his stock.

At Pompadour, in France, two stallions were, however, produced in the second generation, which being bred into fixed the stamp of the Anglo-Arab.

The process by which the breed was originally created was as under :—

| 1st Generation— | | | | | Produce | |
|------------------|---|---|---|---|-----------------------|----|
| English stallion | . | . | . | . | $\frac{1}{2}$ English | 50 |
| Arab mare | . | . | . | . | $\frac{1}{2}$ Arab | 50 |
| | | | | | 100 | |
| 2nd Generation— | | | | | | |
| English stallion | . | . | . | . | $\frac{3}{4}$ English | 75 |
| Anglo-Arab mare | . | . | . | . | $\frac{1}{4}$ Arab | 25 |
| | | | | | 100 | |

| 3rd Generation— | | | | Produce | |
|----------------------|------------------------|---------------------|-----------------------|---------|-------|
| Anglo-Arab stallion, | $\frac{3}{4}$ English, | $\frac{1}{4}$ Arab, | $\frac{3}{4}$ English | 75 | } 100 |
| Anglo-Arab mare, | $\frac{3}{4}$ English, | $\frac{1}{4}$ Arab, | $\frac{1}{4}$ Arab | 25 | |

| 4th Generation— | | | | | |
|-----------------------------|------------------------|---------------------|---------|-------|-------|
| Anglo-Arab mare, | $\frac{3}{4}$ English, | $\frac{1}{4}$ Arab, | Arab | 62.50 | } 100 |
| Arab stallion (French bred) | | Arab, | English | 37.50 | |

A bitter war waged between those who wished to have a breed of racehorses equal to the English and those who wished to have one dependable for general utility ; and in the fight between the Turf and general requirements the Anglo-Arab went to the wall, the policy of the French Jockey Club, initiated in 1852, almost exterminating him. Since 1874 there have been attempts to re-start the Anglo-Arab, and some sires are now to be seen that have done much towards improving native breeds and producing fine cavalry horses.

The Anglo-Norman

The French and Germans having beaten us in the harness-horse business, it may be instructive to see how they have done it. Normandy had two native breeds of horses renowned in their day, the Merlerault and the Cotentin, the first a coach horse, the second a saddle horse. They were crossed in the last century, at first with half-bred English sires more or less well bred. Later, English Thoroughbred blood was introduced ; and in modern times French Thoroughbred blood from Pin and stallions of the new breed have been extensively used.

The most noted of the half-bred English sires

introduced in the last century were Glorious, Badin, Lancaster, Warwick, Somerset, and Doctor. In 1790 the breeding harras were suppressed, and during the First Empire England was closed, with the result that all sorts of sires were used with disastrous effect; but after 1830 English blood was poured into the Normandy breeds. At that period the Norman was an ugly beast. "In truth," says a French writer, "he was a horrible brute, and long is the list of shameful epithets fastened to his name. And as with his moral, so with his physical condition, one had no longer a horse but a pig to do with."

From 1850 English blood has been properly and carefully administered with the very best results, though at one period (1860) substance was sacrificed too much to activity and lightness. The English blood introduced to improve this breed includes Thoroughbred, Cleveland, and Hackney.

Merlerault—Cotentin

The Merlerault variety of the Anglo-Norman differs from the Cotentin and the Vallée d'Auge, being lighter and shorter coupled, and an excellent saddle horse, fairly fast, with nice action and plenty of bottom.

As I shall endeavour to show that the breeder in England can devote himself profitably to breeding general utility and harness horses, I shall allude to one or two other Continental breeds that have at present cut out the home producer.

The Bigourdane Améliorée

This breed is really an offshoot of the Anglo-Arab, and is known sometimes as the "Anglo-Arab Half-bred" (*demi-sang Anglo-Arabe*), and is the result of the efforts of the Administration des Haras between 1833 and 1852 to improve the Anglo-Arab for general service.

The foundation of the breed is from Navarre blood, and the Navarian breed owes its origin to the Andalusian. The Andalusian horse was a heavy, full-bodied animal, and at one time had a great reputation in this country. The Duke of Newcastle, in Charles II.'s reign, preferred some foreign breeds over English. "The best breed of horses is in Andalusia, especially that of the King of Spain at Cordova. The best stallion is a well-chosen Barb or a beautiful Spanish horse." He, however, degenerated in France to the type known as the Cheval Navarrin, and became a light, weedy animal, slack-backed, heavy-shouldered, and having little of the size of the Andalusian except in a thick, heavy neck; he retained, however, high, graceful action, and an elegance and suppleness that made him an agreeable hack. The problem was to add strength and size without depriving the breed of its quality, grace, and action. First recourse was had to English Thoroughbred blood alone; but this was abandoned, and the mares were sent first to English blood, and their produce being mares, to Arab blood, and the produce of this cross to English blood again, giving a most successful result. The breed is now

a fine one, without loss of action, their paces are less high but farther-reaching, quicker, sharper, and cleaner ; their substance has increased and the beauty of their contour fixed. And no longer merely light saddle horses, they are now adapted admirably for light carriage horses.

Amongst other breeds competing seriously with England in the carriage horse and general utility class, may be mentioned the Hanoverian, Mecklenburg, Oldenburg, Danish, and Prussian or East Prussian. All these owe their present excellence to English blood. The Oldenburg is perhaps the best breed of bay carriage or barouche horse out of England, and in the main owes its present excellence to three Cleveland sires introduced in 1850—Duke of Cleveland, Lucks All, and Astonishment. English horse-breeders should note that the Cleveland and Yorkshire bays for the royal carriages have been of late years purchased in Germany—the produce, to a very large extent, of Cleveland and Yorkshire horses and mares imported during the last thirty years. In the following pages it will be shown that even these, the highest-priced carriage horses, can be bred profitably and easily in this country by farmers who have, at their very doors, the advantage of the best materials for their production.

Foreign Draught Breeds

We have not much to learn from the foreigner with regard to the production of the best types of draught horses. Careful inbreeding is the secret for

fixing type and obtaining impression, power, and resistance to crossing. And it may be said that till lately most foreign draught breeds have not been long enough fixed or carefully enough watched to give them the value of a pure breed.

The various draught breeds of France, for instance, such as the Boulonnais, the Percheron, the Franc Comtois, the Race de Trait Bretonne, and the Cheval Poitevin, remain types when kept to their own soil, trade, and surroundings, but have not sufficient purity and inherent uniformity to be reproductive of their best qualities in crossing.

Those who are inclined to despair of persuading farmers in those districts of England where horse-breeding is little practised to attempt it, may find encouragement in the fact that some years ago the farmers of Le Perche did not trouble themselves about horse-breeding, and devoted their time and attention to their flocks and herds; but to-day, from small beginnings, they possess, in the greatest numbers, perhaps the most renowned and sought-for of all foreign breeds of draught horses, the "Race Percheronne." The well-known Grey or White Percheron, whether of the stronger or lighter class, has won a decided position as a horse suitable for certain classes of draught and harness, and finds its way into our omnibuses, trams, and vans. It would pay the English farmer to supply this class of horse, but, believing as I do that we can produce something better and more profitable than the Percheron, I shall not occupy the time of the reader with a description of the breed, its uses, its many good qualities, and its decided faults.

CHAPTER III

AGRICULTURAL HORSES

THE day having gone by when a small farmer could till his holding with a yoke or two of oxen, it is safe to say that every farmer must have one or two draughts of horses on his farm. He has the choice between mares and geldings. Curiously enough, in non-breeding counties at least, preference is usually given to geldings.¹ The gelding commands, where other things are equal, a better price than the mare. I have no hesitation in saying that for a farmer a mare is of greater value than a gelding. I will not stop to discuss the English prejudice against entire horses further than to say that the perfect horse is undoubtedly a stronger and more enduring animal than the gelding, but that the custom of castration, so peculiar to our country, has at least one good

¹ The European horse-breeder as a rule looks to the stallion, and esteems him more highly than the mare as a producer. The Oriental always gives the first place to the mare. The English breeder generally hopes for a colt foal. The Arab says: "The fountain of riches is the mare that produces a mare," and, "Prefer the mare, her belly is a treasure and her back the seat of honour." The value of the mare as a charger is higher than that of the horse amongst the Arabs, because she is easier and pleasanter to ride, she does not betray her master's camp or ambush by neighing, and she supports heat and thirst better than the stallion.

result, in that it *tends* towards the best horses being kept for sires ; and that, as far as horse-breeding is concerned, it would not be a bad thing if many more were cut which now travel the country, spreading hereditary disease, begetting weeds, and doing much to discourage those horse-breeders who have had the folly or the innocence to use them.

Granted that the average gelding is larger and stronger than the average mare, I would respectfully maintain that he has not as a rule stamina, courage, and wear-and-tear qualities to an equal extent with the mare, which has not undergone, as he has, that mutilating process which must emasculate him as it does every animal upon which it is performed. Not only will the average mare wear longer than the average gelding, but she will earn her keep equally well, and present her owner, if she is carefully attended to at the right time, with a foal almost every year ; and she will do this with very little deterioration of her power for continual work, as I shall try to show later on. Again, the cart horse may have an accident that makes him valueless except for the price of his hide and what the M.F.H. will give for his carcass at the kennels. A good mare, however, in a similar case may prove as valuable at the stud as she did in the shafts, and will at least be worth keeping where there is hope of recovery, if she can bring up a foal or two meanwhile.¹ And yet again, a mare that is a good breeder when partially and not totally incapacitated for work will be worth keeping, for she will be handy for odd jobs and relieve other draughts when the farmer could

¹ *Vide* Estimates of Breeding from Working and Idle Mares, pp. 102-111.

not easily afford to buy or keep a horse to fill such a place alone. To every farmer who can afford to keep two draughts of horses for the farm, I would say, have one draught at least of mares. In foal or not, they will earn their living, work the year through, and need little care beyond that given to the horses, save when in foal, to keep them out of severe shaft work in the spring for a few weeks before foaling. For all spring work on the land, in the plough, the harrows, leading in the team, and short journeys in the carts on level ground, they can be used right up to within an hour or two of foaling, and many a mare in my own neighbourhood has come in from the plough at dinner-time, foaled, and within a short period been between the cords again. The mare can return to her ordinary work within two or three weeks of foaling.

Generally speaking, then, the farmer, in choosing his brood mare, should see that she is qualified at least for the work of half a plough. Naturally the man with a small holding who can only keep, say two, three, or four horses at most, will choose his mares from purely agricultural breeds. Perhaps the natural course in his case will be the wisest ; he may miss the chief prizes and best things that horse-breeding offers, but he will be following a safe and sure road to a certain, if sometimes only a small profit. So much success depends on the turn of a man's fancy and his taste, that it is as impossible here, as in other things, to point out a clearly-defined road or a royal way to certain success. That man will probably succeed best who follows his natural bent and applies himself to produce the animal in which

he takes the most interest ; therefore no one should be discouraged—not even the “ small ” man who loves and prefers the shape and action of the carriage horse, the quality and courage of the hunter, the display of the hackney, more than the agricultural breeds—from pursuing his fancy and trying to produce his ideal. We may feel sure that those who try wisely will succeed, and, like the Arabs of the desert, will find Mohammed’s promise fulfilled in themselves : “ Heaven will help those who love horses, and lessen all expenses that they may incur.” There are various types of agricultural horses, and some men prefer one, some another ; one man is impressed with the size and magnificence of the Shire, another with the compact and concentrated strength of the Clydesdale, another with the moulded neatness and handsome form of the Suffolk, or with the special attributes and individual merits of some other breed. It is a mercy we do not all see and think alike on these subjects. The Yorkshireman and Irishman are fond of a bit of blood ; the Scotsman is fond of hair ; the Norfolk man of a little horse with a lot of action ; and there are happily others having minds not excited by ambitious and fancy notions of any sort, who are content to plod carefully on, breeding the useful nondescript, the ordinary half-bred, and the common cart or draught horse,—but each and all doing something to maintain the credit of the country for horse-flesh, and at the same time turning an honest penny for themselves. All the best class of brood mares of the breeds I have mentioned may find a place on the farm. I know stout-barrelled, stiff, well-stepping hackney mares working well on land ;

fine, high-quality, strong-loined, big-limbed hunter brood mares and Yorkshire brood mares, all working honestly for their living, and in some cases putting to shame their more hairy-heeled companions. Therefore I say that while the farm is undoubtedly the proper place for raising agricultural breeds, it is also adapted for producing the half-bred, the trotter, the carriage horse, the hunter, and the general utility horse, be it for tram, omnibus, van, or tradesman's cart.

The man who has one animal, of a lighter type than the cart horse, will find it a great convenience. There are many jobs on the farm for which a light horse is better suited, being handier and quicker, such as the market cart, the milk cart, the hoe, the scuffer, moving feeding racks, and light leading; whilst a mare of this sort will be always ready to take her turn when necessary in hay or corn harvest, in the plough, in the harrow, or as leader in a team.

Let us consider, first, however, the man who elects to breed only cart horses, and what course his common-sense would instruct him to pursue. If his capital is small, he will, if he is not in immediate want of horses, bide his time, till he can sell one he has to advantage, or circumstances demand a new purchase, in the meantime keeping his eyes and ears open to see or hear of a mare to suit his purpose. He will look out for a mare of from five to eight years old, used to all gears, with short legs, deep middle, strong loins, muscular, active, and game-looking, free from all unsoundness, especially from side-bone and hereditary ailments. He should not think only of size, or that the biggest and weightiest

mare is necessarily the one that will breed the biggest foals. A stout, stiff, little mare, got by a horse known for getting the right sort, will probably breed stouter and bigger horses than a long-legged coarse one. Let him be sure that she is not afraid of hard work, that she is generous and cheerful in her collar, and when he is ready to buy, let him not lose the right sort by fighting over a pound or two in the price. It will be a satisfaction to the purchaser if he knows that the mare has bred a foal before he buys her, though most mares breed if properly attended to. The purchase of the mare is not all that is requisite; the wise selection of the sire, the treatment of the foal, and the rearing of the colt have to be considered carefully as time goes on, on which subjects there is a good deal to be said. If the buyer is in no great hurry, he may seize an opportunity, as it offers, of buying a good foal or a young filly; he may thus buy cheaper, though he loses time. Such opportunities are often to be met with at farm sales in spring, and I have seen good filly foals sold for an old song on such occasions; but before buying such, full inquiry had better be made of those who have known the sire and the dam, as to their character for soundness and willing work. Generally speaking, the sire is the more impressive of the two parents; he will determine in the main the bone, the tendons, the nerves, and will the more certainly transmit the infirmities, especially of the bone, limbs, and feet. The dam, whilst having considerable influence on these parts, and often giving her colour to the foal, may be said to be more impressive than the sire in general appearance and

temperament, provided always that the breeding of sire and dam is similar. Where the breeding of one parent is purer than the other, the purest-bred parent is the more impressive. But these are generalities at best, and are also questions of dispute amongst the highest authorities. The safest rule to follow is to mate the mare with a sound sire whose character for getting good stock is established and which is calculated to remedy defects in the mare.

The fashion for Clydesdales and Shires has exterminated the old north-country prejudice against hairy heels, and the old clean-legged Northumberland and Yorkshire cart horse is no longer to be found : he has been replaced by hairy-legged horses approaching one or other of these types. This seems to point to some advantage in the new fashion over the old, but whilst I admire Clydesdales and Shires, I confess never to have understood why value attaches to the quantity of hair a horse may have on his leg. I feel inclined to consider it merely a question of taste, a cultivated and rather unnatural development of the hirsute appendages of the cart horse. The hair on the leg, to the extent it is seen on prize animals in the show-yard, cannot be an advantage to a farm horse or draught horse ; it adds to the labour of keeping a horse clean and smart, and must be an impediment to him on a wet or clayey farm. A well-feathered Shire must lift many pounds of balled and matted clay on each leg when in the plough, or when carting in miry lanes, and at least it cannot add to its ease, quickness, or neatness in work. Whilst I am not prepared to admit the utility of a large amount of hair on the leg, I strongly

advise the man who desires to breed pure stock, either of the Shire or Clydesdale stamp, to pay attention to this as to other points, as these little niceties and finishing touches to the animal have a considerable influence on his market price. It is well for the breeder to follow fashion, but let him also take care to create a character for his young stock for possessing soundness and courage, and he will never be long in search of a customer, for the good cart horse is easily sold in the north as in the south, and there is a place for every size and every sort. Brewers, carriers, local authorities, railway companies, and traders are always ready to pay a good price for strong, active, fresh horses, four, five, or six years old, of the larger and heavier classes. There is a steady demand also at high prices for a smaller but weighty stamp; and powerful, short horses, even if undersized, will fetch £50 to £65 for hauling purposes, for work in the ironstone mines, and about collieries and works in the manufacturing districts. The more ambitious farmer may be anxious to prove his capacity as a successful breeder, and to obtain the high prices and honours that reward the successful exhibitor in the show-yard. In such a case, if he is a man like most of his brethren at present, without much loose cash, he will have to watch carefully the sales of well-bred pedigree stock and pick up a filly or two. The prices that are obtained at the great sales of pedigree Shires and Clydesdales are not seldom sensational, but there is often a yearling or two-year-old filly which, if not quite up to show-ring form, may prove equal to the best as a brood mare—and these

are frequently knocked down cheap as dirt. Such sales are usually advertised in local newspapers and in the agricultural journals.

The Clydesdale's merits as a farm horse of well-earned repute deserve particular attention at our hands. The Clydesdale, as his name implies, comes to us from the south-west of Scotland. He is the result of various infusions of blood into the native Scotch mares—the first step in the rising road to fame being sometimes considered to have been taken when about two centuries ago one of the Dukes of Hamilton introduced a number of Flemish coaching stallions into that part of the country; but the effect or even the existence of this cross is denied by many of the best authorities.¹ However this may be, it cannot be denied that the Flemish stallion brought by John Paterson between 1715 and 1720 into the district of Lochyoch exercised a distinct and lasting influence on the breed. There is no doubt that its present fame and excellence is due in the main to the unremitting endeavours of local farmers to improve their native breed. Previous to the existence of a Stud Book, a great deal of English carting and Shire blood was introduced to improve the native stock. One of the horses that has left his mark was Mr. Scott's "Blaze," purchased by him in 1780, which horse, though a black, was credited with having a great deal of coaching blood in his veins. But if any stallion can claim to be the father of the breed it would be "Glancer" *alias* "Thomson's Black Horse," bred about 1810. It is believed that the dam of "Glancer" was related to

¹ *Vide* Retrospective volume *Clydesdale Stud Book*, 1878.

the Lochyoch breed descended from the black Flemish stallion introduced by Mr. Paterson.

Later (about 1823) the Cleveland bay played a part. The Highland Society adopted a policy of giving premiums for Clevelands and encouraging this class. "The object of the Society," to use its own words, "is to encourage the breeding of a very active and at the same time a very strong horse which may be adapted according to circumstances either for working the land or for meeting the demand for harness horses of every description. The Cleveland bays are the basis of such a breed, but the Society does not wish to limit the competition to any particular breed." This policy "had the desired effect in the introduction of large numbers of Cleveland stallions."¹ The Galloway and Clyde valleys remained true to their own breed, while Dumfriesshire made use of the Clevelands. In the beginning of the century Mr. Frame, of Broomfield, was the first influential man to set his face against the great variety in colour, a fault, if fault it is, that still remains characteristic of the breed, and which is due to its mixed origin. Being the leading stallion-owner of the day, he castrated all colts that were not black, brown, or bay, creating a fashion for browns and bays, and checking the reproduction of greys, then very common. The difficulty of eliminating a tendency to variety in colour is clearly shown, as to-day there still remains the tendency to variate from the standard colours. And this fact is indirect evidence of the antiquity of other breeds, such as the Cleveland bay, where colour must have

¹ Retrospective volume *Clydesdale Stud Book*, p. xviii.

been fixed from a time farther back than is recorded in any history of the breed. Border horses (such as Nonsuch, 655), more of the Vardy type perhaps, were also used in forming the stock from which the Clydesdale is descended.

The points of the Clydesdale may be summarised as follows :—

The Head.—On the Continent to-day, as was the case in olden times in this country, more attention is given to the head than is the fashion in the horse markets of England. In my humble judgment the head is indicative not only of the temper and intelligence, but of that brain power which gives value to the whole machine. Here is the seat of courage, of spirit and activity, which, if not occupied, renders valueless the largest and most symmetrical horse. From the study of a horse's head much may be inferred as to his quality and character, his activity, endurance, and breathing powers. In the Clydesdale the jaw is broad, the muzzle somewhat coarse and short, but *the nostrils large and open*.

Eye.—Full, vigorous, and kindly.

Forehead.—Large and wide.

Ears.—Long and active.

Neck.—Not too long, thick-set and strong.

Shoulder.—Free, and with considerable slope, to give him his long quick step.

Fore-arm.—Side view broad, muscles long and strong.

Knee.—Broad and flat.

Shank Bone.—"Should be flat from a side view, thick and gently rounded from a front view, and tapering to an edge as it goes back ('razor-legged').

The back part, from the knee, should possess a nice flowing fringe of silken hair which should spring from the very edge of the bone" (*C. S. B.* xlii.). The quality of the hair is indicative of the quality of the bone and of the horse. Apart from this, I am inclined to think that the value of hair on the leg is due to fashion and not to utility.

The Sinews, as in all horses, should be hard, easily handled, and stand well out from the bone.

The Pastern should not be too upright or too short, but should harmonise with the slant of the shoulder. The short upright pastern is well enough for the farm, but will not mitigate the concussion which attends the action of a horse on hard roads and paved streets.

The Foot is generally good and well shaped ; but side-bone and ring-bone should be always looked for, as the Clydesdale is, if less liable than some other draught breeds to this class of disease, not free from it.

The Back.—A common defect has been undue length in the back. Slabby, low-backed animals should be avoided.

The Ribs are too often flat.

The Chest should be low, broad, and full.

Hind Parts.—Broad, low-set hind-quarters, with muscular thighs, "descending into broad and proportionately-developed hocks, sum up the hind end of the Clydesdale" (*C. S. B.* xliv.).

"From the hock to the ground the leg should be short, broad, flat, clean, evenly and straight or slightly curved forward, the sinews standing out from the bone and having a similar fringe of hair to that on the fore-leg, and rising as high as the bottom of the hock joint."

Height.—16.2 hands.

Colour.—The most fashionable colour is dark dappled brown, but all colours are found, from blacks, browns, bays, to the less-liked greys and the hated chestnuts and roans. In later times white markings have become so common as to be regarded as a sign of pure breeding.

Action.—“ In walking the horse should, if approaching you, come with his head well carried and with an apparently measured stride, lifting his feet well off the ground and placing them down again, regularly, evenly, and with apparent deliberation.”

His hind and fore action should correspond—his hind feet should be brought forward with flexing hocks as deliberately as the fore feet. The hocks must not turn out in moving forward.

His trotting action should be clean, and high enough to enable the inside of the foot to be seen as he lifts it.

Constitution.—Healthy. The Clydesdale is perhaps the most water-proof of all breeds, standing wet weather admirably.

The prices that Clydesdales fetch if they are sound and well-bred are very remunerative. As much as 1000 guineas has been given for a mare and foal, and for entire horses from 600 to 1500 guineas.

A word as to some other cart horse breeds before turning to other classes. There is no doubt that the Suffolk Punches have been very much improved owing to the pains taken with them by several enterprising breeders with a view to eliminating their

worst faults, and also to the patronage and encouragement this breed has had from the Royal Agricultural and other societies. Their chestnut colour has now been fixed, and it is much more rare to find bays and incorrect colouring than formerly. There is a kinship between bay and chestnut, and in the few instances where there has been a variation from the bay of the Cleveland, the colour has almost invariably been chestnut.

I know of one chestnut Cleveland mare, but if her legs were blacked she would be a golden bay, and all her foals have been true bays. There appears to be a greater tendency among the Suffolks to throw bays than for any other breeds to throw chestnuts, but these questions, however interesting, are a little foreign to our present subject. The size of the Suffolk has been increased, and that without any loss of its distinctive cobby mould, perhaps the most attractive characteristic of the breed. Their feet, always their worst point, are much more satisfactory than of old ; and this is well, for it has been the shallow, brittle feet of the Suffolks, unfitting them for travelling on rough and hard roads, that has prevented these handsome animals from gaining a much higher position in the public estimation than they have hitherto occupied. There is something very fine and impressive in seeing a team of these grand-looking, shining chestnuts drawing their load, each with an air of cocky consciousness of his neat appearance in his whole carriage and bearing, whilst the action of his cleanly limbs is often admirable. As a mere spectacle nothing is more imposing than a well-filled class of Suffolk Punches, in all their

golden splendour, uniformity in colour, and stamp in the show-ring ; and in spite of north-country prejudice against this breed, I still incline to the opinion that they have valuable qualities which may yet bring them to the fore at home, as they have in many countries abroad.

The Suffolk is noted for his courage at a dead pull, and will go down on his knees to move his load in a way that few other horses will.

I feel convinced that, for a certain class of half-bred stock, the Suffolk would form a much superior basis for crossing than the ordinary cart mare, and I would recommend farmers who would not patronise a lighter farm mare (such as the Cleveland or Chapman, which I exclude from the ordinary category of carting breeds) to satisfy themselves as to the merits or demerits of the Suffolk. Without compromising my expressed conviction that carting blood is a noxious thing in the carriage horse as in the hunter, I believe that, if such blood is to be used, the evils of the cross will be less prominent in the produce of the active Suffolk mare to Blood, or Coaching, or Hackney, than in that of any other cart mare. Such a mare will probably throw foals of a uniform colour, chestnuts or bays, enabling the breeder to turn out match pairs. They should have good looks, good action, and fine, clean legs, though probably betraying their origin in coarseness of the quarter and elsewhere. If the sire is carefully selected, the produce of such a mare should not lack altogether the wear-and-tear qualities and sustained vigour in quick work that are so important in the harness horse, trooper, and general half-bred. I cannot bring myself to commend breed-

ing weight-carrying hunters in this way, though I have little doubt that horses thus bred would sell well as such, and, in appearance, be counted a fine stamp of that much-coveted and high-priced article ; for it may be regarded as certain that when a second fox was found, and the blood horses were going free and fast over grass and through dirt, the son of the Suffolk dam would, in comparison, be a spiritless sloven that required spurring along, and a tiring, aggravating, and dangerous mount for the rest of the day. Still, there is a man in the hunting field for nearly every kind of horse, and such a horse may be the pride of the macadamising 18-stone follower at a safe distance, or suit those whose name is legion, who are treated so unmercifully in the song—

For coffee-house gossip some sportsmen come out,
Of all things they're prating, but what they're about ;
From scandal and cards, they to politics roam,
They ride forty miles, head the fox, and go home.

CHAPTER IV

VARDY, CHAPMAN, CLEVELAND, AND YORKSHIRE BAY

HAVING said something about the merits of mares which come under the description of purely agricultural classes, let us look at one or two breeds that hold an intermediate place between the Vardy type of Northumberland, and the lighter type of Cleveland, the North Riding of Yorkshire and Durham. But we must hark back for a moment and criticise the generalisations made in the last chapter. Whilst I maintain that purely agricultural mares are properly fitted only for the produce of heavy horses, and those intended for haulage, it can be fairly urged that high-couraged, active cart mares are to be found from which valuable half-breds can be reared. I do not altogether dispute this, though I do not think it the best, and am sure it is not the most profitable method. I seek to guide the farmer to breed profitably with a minimum risk, and there is always a risk in breeding between extremes. Extremes may meet; but too often in horse-breeding the result is a compound rather of the faults than the virtues of each—*e.g.* the Thoroughbred and cart horse too often

produce, instead of a perfect combination of strength and substance with quality and pace, a coarse, misshaped horse, with clumsy feet, round soft legs, ugly carting quarters, and a coarse head ; or a horse with the frame of a draught horse and the limbs of a weed. In fact, there is no counting on the result. Even the attempt to get a carriage horse by the apparently simple course of crossing the hackney with the Cleveland, in order to combine the perfect action of the one with the beautiful coaching form of the other, is not likely always to succeed, as the result will often be disappointing, in that the horse, even if big enough, will have the ugly short quarter and short neck of the hackney. When good judgment is used, and great pains are taken, this cross is a success ; and in point of view of service, and wear-and-tear qualities, there is nothing left to be desired. The best results are obtained by crossing those distinct breeds which approach each other in type, and that therefore most easily assimilate—*e.g.* the Shire and the Clydesdale, the Cleveland and Yorkshire bay, the Cleveland or Coaching mare and the Thoroughbred, the Half-bred mare and the Thoroughbred.

We live in an age of great revolution in horse-breeding, the results of which are so far-reaching that it is impossible to estimate them. It is the era of stud books and pedigrees, when each type is being permanently fixed by the lines drawn round each breed by Stud Book societies—such as the Clydesdale, Shire, Suffolk, Hackney, Cleveland bay, Yorkshire bay, etc., etc. ; and our example is being followed on the Continent and in America. Our

good horses were formerly produced either by hazard or by the care and selection of a few intelligent breeders ; but now our horses and mares are so classified, and so bred to type and uniformity by the influence of the Stud Book, that breeding has become a practical science, the knowledge of which renders it comparatively easy to breed exactly that stamp we are in search of. Twenty years ago there was only the *General Stud Book for Thoroughbreds*, and it had not been a hundred years in existence then. The example set by the racing world with such a splendid result has been followed by the agriculturist, the hackney breeder, the coach horse breeder, even the pony or hunter breeder, and we are already reaping the most extraordinary result from this movement. We have literally created a new pattern of almost every class of horse in the last quarter of a century. It is astonishing how quickly the stamp of the racehorse becomes fixed through the obligation to trace the pedigree to record performance. It is well known that every English Thoroughbred of to-day is descended from one of about ninety-six original mares. Of these more than one-half trace their origin to Arab, Barb, or Oriental blood in the main ; but there remain a number of original mares which were English, or whose relationship to Eastern blood was not recorded, and which were probably sprung from generations of selection and crossing with the view of obtaining the greatest stamina and speed. As soon as the Stud Book was closed against unpedigreed horses, the type became fixed, and with each succeeding generation the impressive power of the breed became stronger, so that to-day

the inexperienced can tell the Thoroughbred at sight ; and it is certain that when you use the Thoroughbred sire you will obtain the quality and texture of the Thoroughbred to a preponderating extent. In breeding from non-pedigree stock, even from the best-looking and most meritorious mares, there is so large an element of chance as to make horse-breeding a lottery, for she may throw back to some unknown cross and have a foal that in no way resembles her. Those who have tried to breed hunters from half-bred hunter mares know how difficult it is to make sure of counting on breeding a good hunter. The mare may be a big fine one, with quality and endurance, and yet somehow or other her progeny are faulty or undersized weeds. On the other hand, a little mare that has been nothing wonderful herself may throw superb stock. Therefore the farmer who breeds for the market, unless he is sure of his mare's capacity for throwing good stock, is wise not to despise pedigree, and should look to "breeding" even in purely agricultural horses.

I have previously alluded to the old north-country prejudice against hairy heels, and though I do not entirely lament its disappearance, I do think the farmers of Northumberland have made a mistake to lose the strong, hardy, active, clean-legged breed known as the Northumberland Chapman or Vardy. These horses were similar to, but of a heavier make than, the Cleveland bay of the stronger and old-fashioned sort in vogue in the days of heavy coaches, deep muddy roads, and long journeys. The Vardy was not bred so true to colour as the Cleveland, but was a purely agricultural horse, though partaking of

many characteristics of the Cleveland, to which he owed his origin. The Northumberland Chapman appears to have been equal to every sort of farm labour, and to have been capable of more sustained effort, and able to perform his task with greater activity and courage than the ordinary cart horse. Mr. Albert Grey, of Hawick, has taken great interest in the revival of this breed, and has informed me that many farmers in Northumberland have welcomed his efforts and hope much from the experiment. He has selected a Cleveland sire of exceptional size, strength, and bone, and time will show whether the crossing of this stallion with the Northumberland and imported mares, such as the Clevelands lately purchased by Mr. Grey, will lead to the restoration of the old type. Mr. Grey has gone to the only source whence such a revival can be expected, where the clean leg, the hardihood, activity, and quality can be obtained without the loss of that power and strength that is requisite in a horse for the farm. If the farmer can obtain mares of such a type as this, capable of doing all that the hairy-legged, rough-framed mare can do, he will have a quicker, handier animal, and a most valuable brood mare for the production of half-bred stock and harness horses.

On the whole, I am inclined to believe that carriage horse breeding is the simplest, surest, and most lucrative of all descriptions of horse-breeding. The price that the London jobmasters give for a carriage horse is a high one ; for a four-year-old it runs from £90 to £140, and they cannot find them in England. Dealers in fashionable carriage horses give still longer prices, but are unable to find match

pairs of bays and browns at any price in England, and have to scour the Continent and America to supply their customers. The foreign horse is often a fine horse in appearance, of noble mien, with fine quality and action, the head nicely set and well carried on an arching crest ; but generally he is a soft horse, and goes to pieces under hard, fast work. The American carriage horses, on the other hand, have a reputation for wear-and-tear qualities, though as a rule they are not so good-looking as the foreigners. Now at home we can raise a horse that is better looking, is a freer goer, and that can wear all foreign horses down.

The finest carriage horse in the world is the high-class Yorkshire bay, combining as he does the quality and grace of the Thoroughbred with the strength, colour, and beauty of form of the Cleveland. He is an ideal of all that is magnificent and useful in the carriage horse. His colour is a rich, shining bay, his coat is as bright, fine, glossy, and iridescent as that of the racehorse ; his legs, mane, and tail are raven black, setting off the splendour of his golden colour. He is strong and lengthy, he stands over a great deal of ground, his top has the flowing lines of the Cleveland back and level quarter, his ribs are well sprung, he carries his neat head and arched crest, as well as his high-set tail, with all the pride and grace of an Arab, and no bearing rein is needed to make him bend. At rest and in action he is a picture of stateliness. There may be other breeds that lift the knee higher, but the movement of the Yorkshire bay is fine and free ; it is not a mere snapping of the knee and flexing of the hock,

but he moves smoothly, evenly, and with liberty from the shoulder and thighs. Stepping lightly and airily, yet with a long reach, he covers the ground swiftly and with ease. The shoulders vary as in other classes, but the better sort combine properly the slope of a muscular shoulder, which is required for freedom, and the form that is necessary to go well into the collar. They are as a rule hardy and thriving, and almost invariably horses of a tractable and sweet disposition. Being bred to size 16.1 to 16.3 and upwards, they are liable to one failing unless care is taken in the selection of untainted sires and dams. I allude to the infirmity of roaring. How much of this is due to size, to unsound Thoroughbred strains, and how much to the tendency to force, overfeed, to fatten for shows, and to catch the eye of the dealer, it is hard to say. I do not suppose this tendency to defective respiration is greater than amongst other big horses, but it used to be by no means uncommon. Happily the evil is much less to-day, owing to the pains taken to avoid breeding from all animals that have a tendency to make a noise. The Yorkshire bay is a created type, whose home is the south of the North Riding of Yorkshire, and the East Riding, and has been formed by selection and crossing the Cleveland directly or indirectly with the Thoroughbred. There is, as a rule, a great preponderance of Cleveland over Thoroughbred blood, and it shows itself so much that it is impossible to detect the difference between a light specimen of Cleveland and a strong specimen of the Yorkshire bay.

No blood is more impressive than the Cleveland

—an evidence of long-established purity of breeding. It is hard to trace many Cleveland pedigrees back to beyond the beginning of this century, though in the eighteenth the breed was regarded as the peculiar pride of certain districts in the North Riding, and was of a distinct colour and stamp. The model has probably been in the eye of farmers for centuries, but it is useless to declare that there is no cross of outside blood in the Cleveland bay. In all probability there are some far-back strains of racing blood, and later strains of what would be called coaching blood, but the way in which the type has been maintained and inbred, in a restricted area, has given it great prepotency and power of influencing the produce of any horse or mare with which the Cleveland is coupled ; and I think justifies its claim to be the oldest of English breeds.

Put the Cleveland mare to even the Thoroughbred, be he brown, black, chestnut, or grey, it is fifty to one that the Cleveland influence will maintain itself, and that the foal will be the colour of the dam. The Cleveland has a large amount of quality—as much, in fact, as it is possible for a farm horse to carry—and is the best combination of power and quality to be found. Clean sinewy legs, with large, fine, dense bone, an elegant and stately carriage, a coat that rivals the Thoroughbred, all speak to an innate quality which makes it the finest basis from which to obtain the half-bred, the carriage horse, or the weight-carrying hunter. If the Yorkshire Bay Horse Society desires to prevent the loss of substance that infallibly follows the continual mating of coach horse and coaching mare for successive

generations, they must continue, it would seem, the wise policy they at present pursue of admitting the Cleveland stallion of pedigree into their books. There is much less fear of their losing the special quality already established by indirect strains of Thoroughbred blood, but they may have to continue to admit more direct crosses of the Thoroughbred as time goes on.

There are Yorkshire coaching mares so nearly approaching the Cleveland in build and style that they are admirably adapted for the farm. I know of Yorkshire mares in farmers' hands that have been veritable gold mines to their owners. The farmer who desires to breed the best pairs of bay carriage horses should buy a couple of Yorkshire or Cleveland fillies from some good strain—all the better if they are own sisters or half-sisters—and if they prove good brood mares nothing should induce him to part with them. Any colts off these mares will be most valuable. If a man has one such mare the three- and four-year-old colts out of it by the same sire are as certain to be a match pair as anything can be, and should sell, unbroken, for £200 at least to the dealer, leaving a margin of profit (if the cost of rearing a horse to four years old is estimated at £40, and the three-year-old at £35) of £125.

Young horses on a farm are supposed by some to do no good to the land, and indeed many hold that they do actual harm. My experience is that, though they do not improve the land like other stock, they do it good rather than harm. I have two fourteen-acre fields; half of each field ten years ago was good old grass land, and the other

half of each field was bad, bare, mossy, new grass land. For ten years these fields have been pastured almost entirely by horses, with an occasional meadowing of one or the other. There has seldom been put on to the land a single load of anything but the stable manure from my stables and the loose boxes in the fields. The new land has improved wonderfully and the old land is as good as ever. There are some coarse patches in the places where the horses stand for shelter, and where they have poached the land near the gates and boxes, but with these exceptions there has been a marked amelioration of the grass over the whole of the fields. Where cattle and sheep are pastured with horses there is no fear whatever of any harm being done,—the pastures will be eaten down evenly, and what is passed over by the horses will be eaten by the beasts and sheep. The way in which horses are mischievous on a farm is in gnawing the gates, fences, and trees, but with a little care this may be guarded against. Rails and gates should be well tarred, and where valuable trees are liable to be barked, a little wire netting nailed round the stem to the height of eight feet will protect them. It is the top bar of a gate that generally suffers from young horses' teeth, and where the owner does not desire to have his gates tarred, a strip or two of metal nailed along the top will prevent damage being done.

CHAPTER V

HEREDITY. HACKNEYS, HUNTERS, WEIGHT-CARRIERS

IN the last chapter I took stock of the Yorkshire coaching breeds ; but the farmer need not limit himself to these mares in his attempt to breed carriage horses. The late Lord Charlemont, who was perhaps the greatest horse-breeder in Ireland, and who made breeding carriage horses pay well, bred his best animals off hunter mares put to a big Norfolk hackney stallion named "The Arrow." He was asked before the Royal Commission on Horse-Breeding (Lord Rosebery's) how this horse was bred, and he replied to the effect that he did not know nor care, as he judged a horse by the stock it got—not by its pedigree. There is a good deal in this view. There is an enormous number of stallions used in England, but it is only here and there that one is found that is an impressive sire, stamping his stock with his good qualities, it may be with far greater excellence than he himself possesses. Such a horse possibly is undersized ; he may be plain even to ugliness ; he may appear to lack quality or even sufficient substance ; and yet all his "get" are distinguished

by singular merit. The breeder should not judge a horse by appearance only, when he can also judge of a sire's stock ; the latter is a safer criterion than simply a combination of good looks and fine action. It is not enough that a horse is a " Queen's Premium " winner and is universally regarded as a splendid animal. The question a breeder has to ask is, " Can I see his stock ? Let me see his foal, or, better still, horses by him that have come to age." When satisfied in this respect, let him spare no pains to secure that horse's services. Pedigree certainly goes for something ; it is an indication of probabilities, *i.e.* that in certain families of horses you find prominent characteristics, and that the members of each family have the quality of impressing these characteristics on their offspring. As action runs in the blood of the descendants of a hackney like D'Oyley's Confidence ; jumping power in the blood of Bird-catcher ; chestnut colour and a white blaze in the blood of Blair Athol ; grey hairs in the manes and tails of the descendants of Cleveland Barnaby ; superb form in those of the Yorkshire bay Candidate —so do faults of form, of construction, and temper remain the inherent attributes of other horses' descendants. A knowledge of pedigree assists the breeder to select, to discriminate, to anticipate, and to be on his guard. It is the same in all breeds. Now and then in the course of centuries a cart horse such as the Packington blind horse, a Cleveland such as the Hobhill horse, a Barb like the Godolphin, an Arab like the Darley Arabian, appears, that revolutionises to a greater or less extent the future of his kind. Some horses possess this

power in a large degree, others in a less degree, many not at all ; and the breeder should try to discover those sires that are impressive. What is true of the sire is also true of the dam ; for instance, barrenness in some families is not uncommon, or some other fault distinguishes the progeny of the mares of certain blood. Here and there, however, is a mare, it may be, of unknown and unrecorded pedigree, which year after year throws, to whatever fairly good horse she is covered by, a foal that grows into a high-priced first-rate animal. "Is horse-breeding such a lottery then? Are farmers to embark in an undertaking where so much depends on the chance of finding the mare and sire suited for their purpose?" I will not reply to these queries by saying "nothing venture, nothing have," though this is true of trade in general, for my task is to give an idea of the measure of venture that is requisite to gain the end. I am very partial myself to Cleveland bays, and one of my chief reasons for favouring them is that there is very little "venture" and much certainty of the "have." I know that my Cleveland mares will, when put to the Cleveland sire, breed foals absolutely true to colour and type ; I know that if they go to the Yorkshire coach horse they will retain their Cleveland form but with added quality ; that if they go to the Thoroughbred they go to a pure source that rivals their own blood for impressive qualities, and that I shall have whole-coloured foals which if they favour the sire, will be fine hunters, and if they favour the dam, will grow into the finest carriage horses. My experience is only that of those who, in the past and present, have tried the Cleveland as a

basis for crossing, and discovered that she is the most valuable brood mare that can find a place upon the farm.

The tenant-farmer with a draught of these mares has an agricultural draught suited for his land, his implements, his carts ; and with reasonable care he cannot fail to be a successful breeder — whether of Clevelands, pure carriage horses, or hunters. Americans and foreigners have for fifty years past scoured the North Riding of Yorkshire, and taken all they could get of this breed. They have their reward in seeing themselves master of the carriage horse trade, heavy and light ; and their native breeds, which were without admirers or buyers, are now envied and in constant demand. The prices that have been given for Clevelands by Americans, Canadians, Argentines, Cape Colonists, Germans, Portuguese, and others in recent years have made it difficult for the private Englishman with moderate means to compete in the Cleveland market. The smash, however, in the Argentine, the M'Kinley Tariff in America, and the general present impecuniosity of most foreign Governments, have led to a temporary falling-off in the demand and prices for Clevelands, just as the supply was in consequence of, and the great rush was becoming commensurate with, the demand ; so that prices for Clevelands are never likely to be more favourable for the buyer than during the next year or two. The farmer who does not succeed in buying good Cleveland or Yorkshire mares can, at all events, find amongst mares such as are sold for omnibus or tram purposes many suitable for his purpose at a very moderate

outlay. Many strong, short-legged mares, with quality, which are admirably adapted for useful service on the farm, may be seen in the London omnibuses and trams; these would in all probability breed excellent carriage horses, half-bred stock, and even hunters. There are always a certain number of such mares that turn out to be in foal, bought by the omnibus and tram companies, and such can often be cheaply bought. I know of one place near London to which a company sent down the mares that turned out to be in foal, where they were kept till they had foaled, all the foals being knocked on the head and the mares got ready for work again. Such treatment is expensive and wasteful, and did farmers look out for like opportunities, it would be better for both parties.

It may be noticed that many farmers are very partial to hackney blood. I have seen hackney sires used extensively on all sorts of mares in the district in which I live. The neat looks, the fine action, and compact strength of one of these cocky little cobs, and his power of giving a little substance—though too often without size,—combined with a low service fee, have great attractions for the Yorkshireman and others; but I cannot believe that this sort of breeding is lucrative unless in a dale or hilly district where ponies and little horses are in request. Nor do I believe the present rage for fashionable hackneys will last long enough to justify a farmer with slender means in attempting to breed pure-bred hackney stock. It is in my judgment a fashion that cannot continue at its present level. The hackney: What is he at his best? When got

big enough, say 15.3 hands high, he is doubtless an excellent carriage horse ; but then he is no longer a hackney. The hackney of 15 hands—what is he in trade ? He is a smart trapper as long as he is fresh, but likely often to lose his chief attraction—his high, fast action—in hard work, or to knock up his legs, ankles, or feet in perpetual hammering on the hard road. As for his name, it is a misnomer ; he is about the most uncomfortable and fatiguing hack that can be devised, and though often a hardy, handy, plucky little horse, and a pleasure to look at, there is no trade except that of “ trapper ” that cannot be better filled by another breed. The real carriage horse is his superior in harness in respect of strength and size, should approach him in action, and at least equal him in appearance. The blood hack is immeasurably his superior in comfort and ease, in every pace ; the high-stepping trot, the rough canter, and the jolting gallop of the one cannot for a moment be compared with the easy walk, the swift, smooth trot, the swinging, gentle canter and even gallop of the other. No man who appreciates comfort in riding would get on to a hackney whilst he has either hack or hunter in his stable. There will always be some people who like to air themselves in the Row or elsewhere on a horse that carries himself so much better than his rider, and which will attract attention by his showy action, his mould, his conceitedly-carried head, prettily-arched neck, and general appearance of being well pleased with himself ; and this being so, I would not say a word to discourage any man who has a fancy to breed hackneys. It can be done profitably if proper

attention is given to the model that is in demand ; but above all action must be studied, sire and dam must have the full-reaching, fast, high, true action, in which the shoulder works freely, the knee and hocks lift and bend, and where all the four legs, with every joint flexing, reach over the ground with the splendid movement—rhythmic, precise, true, and free—which is the just pride of the breed. The hackney, if only he is bred big enough, will find a place in the carriage market, for his hardihood and action point him out as fitted for this trade.

As with the hackney, so with the hunter, though I regard him as the king of the brute creation. I would not encourage the farmer without a special taste for the hunter and for hunting, to attempt hunter breeding. It is most difficult and risky, and should only be tried by those who thoroughly understand what a hunter is, how he should be made, and perhaps also how he should be ridden. To such it may be profitable enough, and happily for hunting men there are hundreds of farmers in England and Ireland who breed hunters, and many of these no doubt make money. But I do not believe there are many getting the best price for young hunters who do not either hunt themselves or have at least one of their family a bold and careful rider. If I knew of a recipe for breeding a 15- or 16-stone hunter, I would gladly give it. The farmer who has had the luck to breed such a horse will sacrifice a large part of the profit he should have out of him if he cannot ride him to hounds and keep him until he can sell him as a “made” hunter. Most farmers prefer the smaller profit and the minor risk of selling

their promising three- or four-year-old to the dealer at a price perhaps half or two-thirds less than the dealer eventually takes for the horse, and yet at a figure that will leave the farmer with a nice margin. In England it is not often that a farmer is to be found who is a really successful breeder of hunters, and those there are usually owe their success to the possession of an exceptionally good brood mare.

There are many ways in which hunters are bred, but some are more likely to succeed than others.

(1) *The clean-legged active cart mare to the Thoroughbred*.—This is the commonest and worst way of breeding a hunter up to weight. He is up to weight, and possibly good-looking, but is a disgusting horse to ride when the pace is fast, the day protracted, the ride home a long one, or any special effort is required; and as he is the worst sort to be on, he is the worst sort to be under, falling like lead when he makes a mistake. He will often lie for minutes where he has fallen, with no compassion for his flattened rider, and no consciousness of the want of dignity in his own position.

(2) *Hackney mare to Thoroughbred*.—Very nice 13-stone hunters may be bred this way if the mare has plenty of quality; they may be deficient sometimes in jumping quarters and thighs, but hackneys have often good legs, feet, and shoulders, strong backs and loins—all important in the hunter. I have myself, off a 15-hands hackney mare, bred a hunter or two this way, which have carried all before them in the prize ring, and been game, good hunters in the field.

(3) *Hunter mare to Thoroughbred*.—A well-bred hunting mare, say with two or three crosses of blood, up to weight, that has proved herself a bold, cheerful hunter with stamina and constitution, is the best hunter brood mare. Such a mare, not older than eight or nine when she goes to the stud, will generally prove a success ; but it is only a mare here and there that can be depended on for producing one weight-carrier after another, and a farmer who owns this sort should never part with her ; if he can afford it he should keep the best and strongest filly off her to hunt himself, and look to replacing her by her daughter in good time, as in all probability the impressive powers of the dam will be inherited by the daughter in some degree at least.

(4) *The Thoroughbred mare and clean-legged cart horse*.—I have not alluded to the Thoroughbred on the farm before, as in my opinion it is hardly the place, as a rule, for them ; but some strong, useful hunters are in this way bred off Thoroughbred mares in Devonshire and the south-west. For such horses as are required for a hilly country, when the pace is not fast, and not a deal of big jumping to be done, they seem to be liked well enough, but they are seldom horses of the first class. It would probably be better to cross “bloody” mares with a selected Yorkshire coach horse. Though I have not seen it tried often enough to venture to recommend it, there is no reason, if the mare has substance, why weight-carriers should not be bred in this way.

(5) *The Thoroughbred weight-carrier* is a comparatively scarce animal, and no ordinary breeder can count on breeding him. He is a giant of his race,

and is the ideal hunter when built the right way, and commands the top price of the market.

The surest way to breed a weight-carrier—a horse up to 15 or 16 stone, that has courage, quality, fair pace, and bottom—is to breed from a good class of Cleveland mare, selecting one which is shorter coupled than the show-ring type. There is a great deal of quality in the Cleveland; they are fast and free in action, enduring in work; and the Cleveland is a pleasant and easy hack. I have seen Clevelands ridden to hounds and have hacked an undersized Cleveland mare, no one suspecting her origin and pedigree. A Cleveland mare to a Thoroughbred produces a very fine type of weight-carrying hunter, and I know men amongst the hardest riders who say that the hunters they have had bred in this way were the boldest, best, and most enduring they have ever ridden. Mr. Thos. Parrington, of Yorkshire fame, considers that the very finest hunters that can be bred are the first, or better still, the second cross off a Cleveland mare. Such a brood mare may, of course, miss throwing horses of the best hunter type, but if she does, she throws a splendid bay carriage horse, and these lines seem to be as safe to follow as any.

So far I have hardly alluded to cavalry remounts, and I do not intend to say much about them to farmers. The miserable price offered by the Government for troop horses will not at present make it worth while for farmers to attempt to breed the horse that is required. £30 to £35 is all farmers will get for cavalry remounts, which are bought in the first instance by dealers, and such a price can leave no

profit. However, any horse that is strong and yet active enough, and is thoroughly sound, may be disposed of in this quarter if he is not quite up to the mark for other trades. But the farmer will find that he can sell his trooper at about £5 better price to the foreign buyer of remounts than to the purchaser for the British army.

CHAPTER VI

THE MARE

THE Arabs of the Sahara say that "the greatest wealth is a wise wife or a fruitful mare." Happy is the British farmer who has these two precious possessions! There is a pride and pleasure in the ownership of a good brood mare and her young stock, bred on one's own holding, that is felt in very few other kinds of property. The Arabs consider, as we do, that the produce takes more after the sire than the dam. They say, "Remember, the mare is but a bag; you will get gold out of it if you have put gold in, and you will only take copper out if you have only put copper in." General experience confirms this opinion. There are, and have been, many sires that could get good stock off almost any mares, but probably there has never been a mare so good as to be able to breed a good foal if put to a really bad horse with hereditary faults (such as spavin and roaring), with a bad constitution and formation. We have all probably seen a good foal got off the most rubbishy-looking or unsound mare, but it is a risky experiment to try, and the Arab is again wise with his advice—"Sow seed only in good soil, and never put honey in a dogskin bottle." It is a fact, and a

curious one, that with us the preference is always given in the market to geldings over mares. In many countries this is not so, and the buyers for some foreign Governments prefer mares, not only for their future use as brood mares, but because of their greater stamina. I myself, where other things are equal, always prefer to buy a mare. The best hunters I have had have been mares. I fancy they have an easier pace, are more facile and quicker, stand a long day and thrive better than geldings; and when an accident befalls, you have a good brood mare to hand, instead of a horse for the kennels or the knacker. The English prejudice against mares for all kinds of work, unreasonable and absurd as it appears to me, has one advantage—the buyer in search of a brood mare can usually pick up what he requires at a reasonable outlay. I have on more than one occasion been offered the gift of a good mare who through some accident has been unfitted for work, and any farmer on the look-out may almost beg one.

Probably the majority of farmers who turn their attention to horse-breeding for the first time will breed cart horses. Let us suppose one of these to have two cart mares—all the better if they are Shires or Clydesdales. In the midlands and the south, probably, it will be more profitable to rear Shires; in the north the demand for Clydesdales is large enough in the mining and industrial districts to make raising Clydesdales pay equally well. It will be well if the mares are not more than three years old, and then if either of them proves after trial to be a bad breeder or a bad mother, the farmer

will have a good agricultural mare to sell at five or six years old, and will have lost nothing by the experiment, for the mare will have earned her keep and be at the best age for sale, and should show a profit. These mares can be worked steadily the whole year round, can take their turn, if necessary, up to the day of foaling, and within a month be doing their share again. Care should, however, be taken not to give them severe work for, say, eight or ten weeks before foaling. They should, except for light or easy journeys, be kept out of the shafts, and not put to any labour that necessitates their straining, but they can do their work in the plough and harrow as usual. The man who goes to buy a mare for breeding purposes, after satisfying himself that she is qualified to do her full share of farm labour, should have her tried for wind, and carefully examined for side-bone, ring-bone, and spavin. In general she should be well bred, deep and stout, with well-sprung ribs, a fair length, but strong in the loins, full in the chest, compact yet roomy in build, and free in her movements, bending her knee well in her trot and going well behind. Her knees and hocks should be large, her legs flat and big, with clean, hard sinews, and short between the knee and fetlock; her shoulders muscular, and her feet large, sound, open, and healthy. It is of the greatest importance that sire and dam should have perfectly good feet; the best with bad feet are worthless, and no fault is more common and more hereditary than unsoundness in the feet. It is not often possible for the ordinary tenant-farmer to obtain an almost faultless animal, but let him satisfy himself at least of

her soundness and activity, and do his best to select a sire that is calculated to remedy her defects in the offspring. Such a sire should be of the approved and fashionable stamp, and, if possible, with a reputation for getting good sound foals of the right colour. Colour helps to sell in all breeds. If the Shire horse is selected, a stallion should be sought that is big every way, but not higher than 17 hands at the most, and a horse not nearly so tall at the shoulder may be the better stock-getter. He should have a quick but kind eye, and a good temper; he should be compact, with a deep middle, and muscular all over—loins, shoulders, and thighs; he should have big forearms, thighs, and second thighs. His top appearance should be one of lengthiness without weakness, and his body should be carried on short, flat legs, with big joints. He should measure about 11 inches below the knee; his tail should be well set on; his mane long and full; the hair on his legs should be plentiful, long, and silky; his feet wide and sound; and he should, of course, be free from hereditary affections of all sorts. Beyond these attributes he should be a horse with plenty of action, lifting his knee and flexing his hock. There are, needless to say, many excellent sires that do not come up to this standard, and it is better to use a moderate sire with an ascertained record of merit than even a show horse with a doubtful record or which has his name to make. The mare being bought and the sire selected, pains must be taken to ensure her being got in foal. Nine out of ten mares that miss are barren simply from want of care in catching the mare at the right

time or from subsequent neglect. She should be watched as soon as January is out, and if suspected of being in season, should be tried, and a note made of the date ; and she should never after be allowed to come in season without its being reported, until the time arrives when it is decided to cover her. For agricultural and half-bred stock the first service should not take place earlier than the end of March. I myself consider that foals do as well and are much less trouble, besides being kept much cheaper, when foaled not earlier than April, as foals that arrive sooner suffer as a rule from confinement, and the mares do not give so much or such suitable milk as when there is grass to be picked up. If the mare is a maiden in ordinary work, it will be as well for a month previous to her going to the horse to feed her on cooler diet than usual—fewer oats and less dry food,—in lieu, bran or linseed mashes. When taken to the horse she should have been two days in season, and if a maiden she should be served again before the pride goes off her.

Opinions vary as to the best time to serve a mare. Some consider the service most efficacious just before the pride goes off, others just at its height. I do not think any rule can be laid down. Subsequently the mare should be tried regularly every three weeks' end and every month's end, and whether refusing the horse or not, she should be tried at these periods till the end of June at least, as many mares will refuse the horse for several successive periods, and then come in season again perhaps without any great show of their condition. Half the mares that are geld are so because the mare

having once or twice refused the horse, she is dismissed from all further consideration with the exclamation, "She's standing all right." A foaling mare is usually much more easily got in foal than a maiden, or one that has missed a year or more, especially if served her first pride within eleven days of foaling. But equal care should be bestowed on all mares. It may be a little troublesome, but the trouble is amply repaid by the absence of that disappointment which all feel when they look for a foal that is not there. There are many prescriptions advocated by both the knowing and the superstitious for getting a mare in foal that refuses to breed. There are those who throw a bucket of water over the quarters directly after service, those who apply a turpentine blister on the loins, and those who bleed. I name these as being supported in some degree by reason or experience. It is possible that the shrinking and muscular contraction consequent upon such treatment may tend to the retention of the semen, or that the withdrawal of the mare's attention from the service may increase the probabilities of conception. In America and, I believe, in France, a simple, though delicate, operation is performed with success by veterinary surgeons, by which the entrance to the seed-bed is opened artificially; but it is a dangerous experiment for the inexperienced to attempt. The Arabs have a similar method. I will not waste time by alluding to superstitions as to phases of the moon or other popular fancies, but recommend those who, after taking every pains find their efforts unavailing, to try the effect of not giving food or water for eighteen hours before

service, and applying a turpentine blister on the loins immediately after it. I had a mare that missed to three different stallions, three successive years, which held the first time the turpentine was applied. I had also a Thoroughbred mare which after being served year after year by different Thoroughbred sires would not breed. Again I had her covered by a three-year-old Cleveland horse, and she held to the first service and bred afterwards to a Thoroughbred again. I am confident that by such tactics nearly every mare can be got to breed, and I have never had one mare that I have failed to get a foal off sooner or later. A cart horse will sometimes stop a half-bred or blood mare and give her a start on a productive stud career. Mares in work that are not in high condition are more easily got in foal than idle mares or mares that are fresh. It is better that a mare should be in fair working order, healthy and blooming, but not fat. It is necessary after a mare has been served to keep her away from all stallions and geldings likely to tease her, and it is better not to put a "shy" breeder to any exceptional labour for two months after she is believed to have conceived. When in foal the mare should be well done to and kept in nice condition, but never allowed to get fat before foaling. When she is heavy with foal no great strain should be put on her, nor should she be upset in her temper by fighting with or worrying her. When other horses are receiving their food, it is as well, in order to prevent their fretting, to feed the in-foal mares first; in fact, everything that common-sense dictates should be done to keep the mare in a quiet, natural condition, and then there will be

no fear of abortion and little risk in foaling. A mare that slips her foal should be treated with every care ; she should be covered at night, and receive gruel and mash, and water with the chill taken off ; and when in foal again, for three or four months before foaling, she should only do such light work on the farm as will keep her in health and exercise.

It is easy to tell when a mare is about to foal ; her udder has filled for some time previously, and a few days before she foals wax is secreted at the paps. When this occurs, and her quarters begin to drop in (as a cow's before calving), her time is just up. When the milk once appears, the mare should be watched, and should be attended to by the man she knows best. She should be placed in a roomy box, with a door opening outwards, in case she goes down against the door. For a week or two before foaling a mare should not be turned out into a dewy or wet pasture ; if she is out at grass she should be brought in at night, and not turned out till wind or sun has dried the standing dew off the herbage. If an owner is inexperienced in the management of a foaling mare, he should call in a neighbour who will give such advice as is necessary. The first thing that should present itself in foaling is the water bladder and then the forefeet. The bladder, when the feet are well presented, may be broken, and the assistant may then take the forefeet and gently pull straight and fairly every time the mare strains. After the foal is delivered the umbilical cord should be tied close to the foal's belly and cut close to the knot, and the foal left near the mare's head. But, as a rule, nature's operations are simple

and safe, and should have only the simplest assistance, the mare being allowed to foal as quietly as possible, though the foal may at times require attention during the first moments of its existence. If it is not a strong foal a couple of fresh eggs are easily given, and little trouble is required to teach it to find its mother's milk. The Arabs induce their foals to suck by giving the foal a dried fig or date soaked and dripping with milk to suck first ; he soon takes to this, and when brought to his dam's side immediately learns to suck. After the mare has foaled, she and her foal should be kept perfectly quiet for a few days. For a day or two one man only should attend to their wants, and for the first three days they should not be subjected to constant interruption or to the visits of curious neighbours desirous of interviewing the new-comer. Visitors always disturb the mare and foal, and perhaps their owner, with their attentions, examination, advice, and criticism. After foaling, a mare may have warm bran or linseed mashes, and if chilly she should be covered for a day or two with a horse-rug, and her water should be made lukewarm. As soon as the foal is well on his legs, and the weather is sunny and warm, they should be got out of doors, for an hour or two at first ; afterwards as much as possible, or as much as the mare's duties on the farm permit. When the mare comes in hot from work, a little of her milk should be taken from her before the foal goes to her—and of course in the summer the foal should run with the mother all night.

Some mares are generous milkers, and such

require, if being worked, a generous diet, or they will keep very poor ; others put most of what they eat on to their backs instead of into their foals ; and some few others are such bad milkers that the foal should be given fresh warm cow's milk at each end of the day, diluted with water, and sweetened with a little brown sugar, to supplement his mother's milk ; he should not, however, be allowed to drink his milk too quickly and greedily out of the bucket.

CHAPTER VII

THE SIRE

EXPERIENCE leads me to believe that every farmer who is the owner of a mare, whether she be good, bad, or indifferent, considers nearly every merit of her offspring to be derived from the dam, and certainly every fault from the sire. If it is a question of colour, the mare may have a white face, a white leg, and a white heel ; the irate owner then spreads the news from market to market that so-and-so's Cleveland stallion marks his stock with white, and the rumour travels round that Mr. Caff's foal by Brilliant Bay has a white foot—and Brilliant Bay's season is spoiled. I know of one curby-hocked mare that has had many curby-hocked foals by various sires, but I never heard the owner admit that anything but the horse was to blame on the few occasions when he would acknowledge that there was anything there at all ; he knows better, but the horse is debited with the fault. A library of jeremiads might be written by those who have travelled stallions in rural districts. The owner of the best of horses has to bear the weight of all the faults of all his sires' sons and daughters, and often but few of the honours. He hears fictions and false-

hoods spread by the jealous man who travels other horses ; before his horse has been on the road a week he invariably hears from candid friends all sorts of news—that his horse is a roarer, that his horse's pedigree is false, and that he is a bad getter. I take it that every stallion commences with this character. However charitable the owner of the mare, and however careless, the horse is always to blame when she is not in foal. And yet there are two sides to the question. The country is overrun with bad stallions—unsound brutes that are travelled at a low fee, cutting out good sires that have cost money, not only from earning an honest living, but from paying for their keep. The saying that you need not wish to pay off an old score against your worst enemy better than by giving him a stallion to travel has too much truth in it. Farmers themselves are much to blame for the existence of so many bad, and the absence of good, sires. They too often look out for a great prancing stallion loaded with fat and having a jaw-breaking name. By encouraging third-rate stallions they are doing mischief to the community and themselves. No economy is worse than to have a decent mare covered by a bad or indifferent horse at a fee, say, of 10s.—and a glass of gin for the groom—instead of paying £2 or £3, or even £5, for a horse that gets valuable stock. What is the result to the man who does this? He saves 30s., more or less, in 1894. In 1895 he has a miserable foal, neither a pride nor a pleasure to look at, however he may “crack” about it to his neighbours. Or he has a foal that grows into a roaring and spavined, but otherwise good-looking animal ;

and in 1899, if he has had patience to keep him so long, he may get £30 for him, being probably £10 out of pocket, and only too glad to see him off the place. Contrast the position of this man with the one who has picked out a first-rate sire, gone to the expense of a £2 or even £3 fee, and perhaps another sovereign or two for travelling expenses to get his mare to the horse. From the first he is happy in the consciousness that his mare is in foal to such a horse ; he at least knows that her chances of being in foal are greater than if she had been served by the old or over-done, under-kept horse that comes touting to his gate. His foal is his pride ; his affection for the mare is enhanced by the pecuniary sacrifice he has made ; he watches over the career of the youngster as if it were a child, and finds himself when bereaved of his four-year-old comforted and compensated by a price, it may be of £80, it may be of £150. Many farmers are ready to pay a higher fee if they are given the opportunity of paying half the fee at the end of the season and the other half when the mare proves in foal. A north-countryman, at least, shrinks with horror from having nothing to show for his expenditure. It is, therefore, well for owners of stallions to consent to this mode of payment when asked, though such a system adds much to the difficulty of collecting the money due—an operation not easy under any circumstances. If breeders understood how great is the expense and trouble of travelling a good horse kept in the highest condition throughout the season, attended by an experienced groom, they might be a little more punctual and considerate in

paying their fees. There is many an owner who would travel a good horse for the benefit of the public, without expecting to make money, if he saw his way to covering expenses, and was saved the bother and trouble he usually experiences in getting his money in. Many owners would be glad to take 30 per cent off the fee to be paid cash down, the first service.

We have previously noticed the type of horse a farmer should select for his cart mare in order to breed agricultural horses, and the characteristics that should distinguish the hackney and the Yorkshire bay. Let us now turn to the Thoroughbred sire, the hunter sire, and the Cleveland bay sire. The Thoroughbred stallion may be said to be ubiquitous. Good, moderate, and bad specimens are to be found in almost every district. The Queen's Premium horses are far too few, and I think that more might be done at headquarters to promote the great horse-breeding industry of this country. I have alluded to foreign competition, but I am too much of a convinced free-trader to think that it would be wise or expedient to protect the horse-breeder by any tariff regulations, even when we have to compete with foreign breeders who are supported by enormous State subsidies of hundreds of thousands of pounds a year, and who have the finest stallions placed at their service at a nominal fee or no fee at all. I have lately inspected the French Government stallions in Algeria, and at Blidah I saw eighty or more that have been serving gratis in various districts of the country. Many of these horses are fine animals, well calculated to get the horses required for

the army remounts, and they serve all mares free of charge. I do not suggest that our Government should give us such privileges as these. I am all in favour of, and have the greatest faith in, the power of private enterprise and individual effort, believing it to be far more effective and more productive than what is done by those who lean on public authorities for guidance, and who have to look to taxes to supply their profit and interest on outlay. But there would be nothing subversive of free-trade principles or discouraging to private effort if the principle were extended that has been adopted in devoting the Queen's Plate money to giving prizes to Thoroughbred stallions under regulations framed by the Royal Commission. This system, which has just enough flavour of royal patronage and pecuniary reward to stimulate competition and to tempt out good horses, has already worked wonders in encouraging and improving the breeding of half-bred horses and stimulating public interest and attention. The knowledge that every Queen's Premium horse has been thoroughly "vetted" and is free from hereditary taint, has given confidence, and many farmers and others wish they were placed within reach of one of these horses. But the £5000 at present devoted to the purpose is not sufficient to place the horses within the reach of many. The country is divided up into enormous districts, and three horses only are allotted to each; thus Durham, Northumberland, Cumberland, and Westmorland form one district, and have three Queen's Premium sires, Yorkshire having another three. Well, a farmer may as well look for a needle in a bundle of hay as

find a Queen's Premium horse in Yorkshire. I have never yet had a Queen's Premium within reach of me but once, and that was Pursebearer, who stood some twenty miles away. I think £10,000, instead of £5000, might be wisely devoted to the Thoroughbred prizes, and another £10,000 to Shire, Clydesdale, Cleveland, coach horse, and hackney. Prizes of £200 are necessary perhaps to bring out the better class of Thoroughbreds, and I am inclined to think the reduction to £150 lately made, a mistake, but prizes of £50 would do much to encourage the travelling of good, sound sires among these and other breeds. It would not be a ruinous sum for a country like England to give in prizes to encourage native breeds of horses. We spend thousands for the encouragement of art, literature, science, and technical instruction ; and surely horse-breeding is not only an industry—it is also a science, and, when thoroughly carried on, is productive of the useful and beautiful. Why I place so much store by these honours is that they evoke public interest and secure at least a few sound sires for use at a reasonable fee. It would be a great advantage if the Board of Agriculture would issue certificates of soundness to owners of stallions at a nominal charge, so that every stallion-owner might have the opportunity of having one, leaving the public to judge of those that were without. Probably we cannot yet go to the length to which the French Government has gone, of penalising the travelling or use, for anything but his owner's own mares, of a stallion that is unsound in certain particulars.

In considering the selection of the Thoroughbred

sire, let us look at the horse qualified to get (1) a carriage horse, (2) a hunter.

The Thoroughbred to get a carriage horse should, if possible, be whole-coloured, unless the mare is a Yorkshire coaching or Cleveland mare, when the mare may be depended on to give her solid colour to the foal. He should have great substance, and may be a lengthy, stout-barrelled horse wearing his head well, and carrying his tail elegantly at the end of a level quarter ; he should have as much action as possible, and some Thoroughbreds are beautiful movers in their trot ; he should not as a rule be under 15.3 or over 16 ; but, as I have said before, judge the sire, where possible, by his stock.

To find the Thoroughbred calculated to get big, bold hunters, at a fee within the reach of the tenant-farmer, is indeed a difficult problem in England. I wish I could at this moment mention half-a-dozen Thoroughbreds that were sure getters of hunter stock. The horse to look for—the horse I want for my hunter brood mares—is one that has stood training and run fairly well over long-distance races on the flat, or in the front rank in steeplechases, or one that is the immediate descendant of creditable performers. I want him game, without vice, with a good constitution, free from all suspicion of roaring, whistling, spavin, or disease of the feet ; his forelegs big and flat and short below the knee ; arms, shoulders, loins, and thighs covered with big muscle ; and deep-chested with plenty of bellows room. I do not care what his colour is, nor about firing and blemishes and unsightliness of limb or joint due solely to a life of hard work. I want the knees and

hocks clean and big, and I do not want little round ankles nor shallow or contracted feet. His head may be any shape if his eye is bright and intelligent, and his ears quick and active, and I would send any distance to a horse that is known to get stock that is sizeable, and that can gallop, jump, and stay. The qualities that are required in a hunter are sound wind, pace, stamina, jumping power, and limbs that will wear. The man who can earn a reputation for producing horses up to 15 stone that possess these qualities, even without attention to appearance, colour, action, shape of quarters or head and neck, may be well satisfied, for with these qualities the horse will always sell, and there are few with these attributes which need be afraid of criticism as to symmetry and action.

As for the hunter sire, that is, "the cocktail" or horse not perfectly clean bred, he is a scarce article. The time will probably come when more cocktails may come to the front as sires, and perhaps some day we may see fine weight-carrying hunters, with quality and pedigree, but not thoroughbred, kept entire and getting fine hunter stock. There is no reason why man, who has evolved the racehorse, the hackney, and the coach horse by selection, should not also create a hunter breed. If this is ever done, the policy pursued by the Hunters' Improvement Society will entitle it to be considered as the pioneer in the work, by recording the pedigree of mares. There appears to be nothing in reason to prevent those who know of a horse not altogether clean bred from using him, provided he has the other necessary qualities in a sire for hunter-breeding.

The mongrel-bred horse with an unknown pedigree, however good to look at, is one to beware of, as such can never be depended on for reproducing his like, but may throw back to his worst crosses.

A few words about the Cleveland sire to assist those, and they are many, who are not acquainted with the breed. The Cleveland horse should stand 16.1 in height ; in colour he varies between a light, bright golden bay and a dark mahogany or brown bay, with black legs, mane, and tail. He should be lengthy in the body, but deep at the shoulders, and his ribs well sprung ; strong over the loins ; his quarters long, oval, and level, the tail coming out high at the end of them ; his neck should arch elegantly, and he should wear his largish and sometimes plain, but nearly always intelligent, head well ; his legs should be clean, fine, hard, sinewy, and flat ; his feet sound and excellent, neither too large nor too small ; and he should measure about 9 inches of bone below the knee. His great virtue is the combination of power and strength with activity, style, and quality.

CHAPTER VIII

THE FOAL

BEFORE dealing with the treatment of the foal and the youngster till he reaches a saleable age, let me add a few words to what I have already said on the subject of stallions. An entire horse that has been wintered well and starts his season in robust condition, with a month's daily exercise to strengthen his muscles, invigorate him, and prepare him for the road, should be able, at three years old, to serve 50 mares, at four years old 100 mares, and afterwards 100 to 150 mares a season till he is ten or twelve years old. Up to a certain point an easy-tempered, vigorous horse does his work better and foals his mares more surely, the more he serves. A five-year-old horse that serves 70 mares in a season will be a surer foal-getter than one that serves only 20. When I say that a horse at age may serve without injury to himself or his reputation 150 mares, I presume the horse to have been kept on the best quality of liberal rations, well stabled and cared for, and to be travelling a fair but not excessive distance with, say, three nights a week in his own stable. The capacity of a horse depends on his temperament. Thoroughbred stallions should, as a rule, not serve

more than from 60 to 80 mares a season. I have known a Cleveland stallion serve 260 mares a season with a high percentage of foals—a record not to be commended. Much depends on care being taken that the mares are in the right condition. It can easily be understood that a horse that stops the great majority of his mares with one service apiece can do a much better season than one that has to cover his mares three or four times; 50 may be enough for the latter, 150 not too many for the former. I had a four-year-old Cleveland that covered 100 mares at that age, foaled his mares wonderfully well, and finished his season in better condition than he commenced it. At the end of the season I showed him in a large class of coaching stallions at the Yorkshire show, where he took second prize to Sultan, and where I sold him for a high figure to South Africa. Let me illustrate what I have said from another experience. I had an old Thoroughbred stallion, Syrian, twenty-three years old, and limited him to about 20 mares besides my own. He foaled his mares only moderately, and his groom advised me to let him serve 50 mares and he would do better. Accordingly next season I let him serve upwards of 40 mares besides my own, and he foaled his mares splendidly. One man who sent five mares to him had five foals, one of them off an aged mare that had refused to breed for some years. A horse that does not travel or get plenty of exercise cannot serve as many as a horse that is out most of every day in the week. Much also depends on the groom. A steady, careful man, who is fond of and studies his horse, is the only sort that should have charge of a

stallion on the road. At the termination of a season, stallions that have kept full of flesh should be gradually cooled down and their beef reduced, and if the owner has not a loose box with a good run they should be turned out for some hours a day. I do not say that this is desirable in the case of all horses, or in the case of a Thoroughbred which has all his life been used to a warm stable and dry meat.

And now let us return to the foal just dropped, and which has learned to suck. There are, in the first place, two things to watch, viz. that the bowels act, and that they do not act too freely. To ensure the first, many use a tallow candle as a suppository the first day. To guard against excessive scouring, the following treatment should be pursued. As a rule, nothing should be done to obstruct nature's efforts, and a little laxness of the bowels need not cause any anxiety, but where regular scouring or the "shute" sets in I have found a dose of camphor dissolved in fine spirits of wine a most effectual remedy. The foal that scours should be kept warmly covered in a blanket or woollen rug fastened round the belly, and its legs bandaged in woollen bandages up to the arms and thighs. The following methods of treatment are also recommended:— (1) Give 2 oz. of castor-oil with half-an-ounce of laudanum. Such water as is given should be very little in quantity, and tepid. The diet should consist of rice boiled to a pulp in new milk, and about a quart of new milk may be given during the day. When the foal is stronger, a few crushed oats and good old hay may be given. (2) 2 oz. of camphor dissolved, 2 oz. of spirits of wine, add water, and

give 2 tablespoonfuls at intervals of three to six hours.

It is a mistake to play with foals when they are very young, as they soon learn that kind of familiarity which breeds contempt, and pick up such tricks as biting, using their teeth, and striking not only with their hind but with their fore feet ; they are, however, all the better for being nicely handled, taught to lead, and to understand the voice and gestures of their attendant. Foals so handled become very tractable, and with young horses well handled there is much less trouble when the time for breaking, mouthing, and backing arrives. I have had youngsters which have had a show career from their earliest days. Such an education has its dangers and disadvantages, but it has always resulted in their being almost broken, so docile, intelligent, and teachable have they become from constant association with man and his ways. They are at home in any stable ; they take their place in the train like any Christian ; they will follow, lead, walk, trot, turn, "come over," back, lift their feet, stand dressing, shoeing, and clipping, understand the words of command, and are accomplished in all those little details which the horse that has run wild till four years old learns only with great difficulty and at the expense of much time and patience on the part of his instructor. To such horses as are accustomed to being handled from foalhood the sights and noises of the road and town have no terror. He does not plunge at the sight or sound of the steam-engine, start at the whip crack, shy at the wheelbarrow on the roadside, or fly from the

bird darting from the fence ; he knows the ways of the world, and has an intelligence all the greater for its early development. A foal may be weaned towards the end of September or in October, and he will be all the better fitted to encounter the hardships of his first winter if he has been living out of doors day and night throughout the summer. It is highly desirable when he has learnt to eat that he should have his little ration of crushed oats or bran-mash when his dam is having her feed in the earlier part of the year ; and for keeping foals in sleek, healthy condition, a teacupful of lime-water and linseed oil well mixed together and put into the bran-mash once a week is effective in keeping skin and bowels in order. It may be said that this sort of thing is all very well in a gentleman's stable, but it is not worth a farmer's while to trouble about such details. My reply is that nothing is truer economy than to do well to the foal, for the foal is father of the horse just in the same way as "the child is father of the man." It is during the first eighteen months of a horse's life that the whole foundation of his future career is laid. In this period the bone and framework is to be made and receive its form, and strength received to overcome any defects and infirmities which, without generous treatment, will become intensified. The first winter is the hardest time in a horse's life ; he is an orphan, deprived of the shelter and the companionship of his dam, and if a colt, after the hardships of winter he will probably have to undergo the shock of castration in the spring—and for all this, and against the ailments of youth, it is necessary that he should be well fortified. I am no advocate

of coddling young horses, but to fit them for growing, thriving, and enduring cold, their diet should be a generous one, of crushed oats, bran, turnips, chaff, and good hay, and anything extra afforded them in wintry weather will pay well. Should strangles or influenza seize the foal that has been weaned in October, kept in a poor pasture in November, and on short or bad rations during winter, what chance has he of surviving or of quick recovery? If he lives he will be left so exhausted that his growth will be permanently stunted, whereas, if equipped against all events by a liberal diet, he will generally defy attacks such as those mentioned. Throughout late autumn and winter, foals should be housed at night, but not put into close, ill-ventilated places. I have sometimes seen the door of some outhouse thrown open and a mob of foals and yearlings plunge out, followed by a rush of hot, fetid air,—this much more likely to knock you down than the actual charge of the prisoners out of the steaming black-hole into the cold piercing air of a January morning.

Some persons advise the docking of foals, but though undoubtedly the operation may be done then with greater ease than later on, I believe it to be a mistake; I am sure it is with half-bred foals. It is easier when they are three years old to know how much or how little to take off, and many a foal that is docked may require a second docking at four years old to suit the taste of some buyer or dealer. If the foal turns out to be neither hunter nor hack, but more suitable for harness or a trooper, he cannot be given back the lost inches of his tail. It is wiser

to wait till the horse is three years old, and when his trade is fixed his tail can be arranged to suit the taste of the market. The operations of docking and castration should be performed by an experienced practitioner or veterinary surgeon in cool spring weather if possible, when there is no danger either from frost, summer heat, or flies. Care should be used after both operations, and the newly-docked horse should not be worked or heated for some two weeks after the event. Docking is really a needless operation, but will be continued as long as the fashion for short tails lasts, and it is not such a cruel operation as it is sometimes represented to be. I have seen a young horse docked when eating the feed of oats which had been taken out to catch him with, and never take his head out of the manger during the amputation or dressing. A horse in his second or third year needs less attention than in his first, but all that is given him is not lost. He should have good pasture and change of pasture during the summer, a run in a clover or old-land fog in the autumn, and sound hay, chaff, chopped straw, and turnips during winter. The water supply should be pure and plentiful, and in cold weather he should have the shelter of a shed or fold-yard. It is good for foals and yearlings to run together; they exercise themselves better than when alone, and for blood and hunter foals, that will have to gallop if they are to sell well, it is important that they should run out with another of their kind. It is well worth while looking over the feet and mouths of young horses from time to time, and having the hoofs that require it trimmed, and "wolf teeth" extracted—which

latter are often the sole cause of a young horse doing badly and losing flesh.

A two-year-old agricultural colt or filly may begin to do a little work on the farm, and help towards its keep, but if a filly two years old and rising three is put into light work she should on no account be put to the horse at that age. I have observed no harm done by breeding off two-year-old mares that are left unbroken and well kept till they are rising four; in fact, it is better for a two-year-old mare to go to the horse, say, in June, foal in May when she is three years old, and not go to work till the following "back end" when she is rising four, than to go into hard work on the farm straight away. A hunter mare need not be any the worse for having a foal in May at three years old and remaining unmade till the following December, when she may be backed and ridden, and not only see, but go to, hounds before the end of the hunting season.

A young hackney should be run in hand frequently—the more the better after he is two years old, to teach him to trot and move fast and freely; his action thus early cultivated will rapidly improve when he gets into work and on to hard meat, and has his nose pulled in by his rider.

As for the manner of accustoming young agricultural horses to the harrow, the plough, and the shafts, it would be more appropriate for the farmer to teach me than that I should attempt to advise him, but all young horses that have learnt to run well in hand show themselves off to much greater advantage when the day of sale comes than

those which have to be hauled about at the end of a halter, and whose only attempt to go is to flounder and buck forward in response to the application of the whip behind. Those farmers who have the old-fashioned horse-wheel thrashing machines often find that for young horses there is no better method of teaching them their first lessons in farm labour than to put them in with the older horses, where they soon learn that it is easier to cheerfully perform a task they cannot escape from than to refuse it. There are many useful lessons that may be taught a young horse, and he should always be corrected from his earliest days for any vicious tendency; he should never be allowed to strike, bite, or rear without a severe reprimand. A horse should be taught to stand when left by his master. The Arabs teach this to perfection. My Arab horses in Algeria, like all Arab horses, were taught to stand anywhere at any time immediately the reins are thrown over their heads on to the ground. You can thus leave them in the desert for hours together with perfect confidence that they will not move a yard from where you have left them. One day I was going at a hand gallop on one of my Arab mares when the buckle of my snaffle rein became unfastened, and the two ends fell through my fingers to the ground; she immediately stopped as if shot, throwing me forward on to her neck. It takes about three days to teach a young horse this, by leaving a lad with the animal to put his foot on the reins every time the horse attempts to move, thus giving him a sharp "chuck" that unpleasantly reminds him that he must remain where he is.

CHAPTER IX

MOUTHING, BREAKING-IN, COST OF BREEDING

THE farmer will probably break and "make" some of his agricultural colts and fillies before selling them; some he may dispose of, unbroken, at remunerative prices; and he will seldom fail in getting a fair price for a fair animal of this description. If, however, he be not a good rider and driver, and has not a good bid for his unbroken hunter, carriage horse, or hackney, he will do best to put his horse into the hands of some competent horse-breaker, who, at the end of a fortnight, should hand it over mouthed and broken. The horse now should be kept in good condition and exercise, in a comfortable stall or box, and should be ready to be produced at any moment to the buyer, who often comes, like an angel, unawares.

A young horse on a farm ought to be accustomed to lead, long before he is of breaking age. Throughout the colt's life he should not only have become used to the voice of his owner or attendant, but have learnt that his master means well and kindly by him.

For mousing, a plain wooden mousing-bit with keys, or a thick, plain snaffle with keys, should be

inserted in the colt's mouth ; the bit should not be attached tightly by the side reins to the surcingle, and it is better if the rein is a running rein from one ring of the bit to the other, just tight enough to bring the horse's nose in a little. An hour is long enough for the first mouthing ; the length of time the bit is in, and the tightness of the side reins, may be gradually increased later.

The next part of his education will be to put on the reins and drive the colt, either in a ring or on the straight (the former plan has its advantages), and thus he will be taught to go, to stop, to turn, and to back ; and when this is learnt he may be "backed," and then, if required for harness, "yoked." The horse wheel and the harrow are good elementary schools for harness horses. Patience, perseverance, and gentleness will nearly always overcome all difficulties in horse-breaking, and leave the horse "kind," good-mannered, and with a good mouth. The best mouth is soon spoilt by a bad rider. Never let a man who uses the reins "to hold on by" or who keeps up a tight long pull on the horse's mouth, get a second time on to your young colt.

Let us look now as to the probable cost to the owner of rearing and breaking a horse on the lines I have attempted to sketch. If an agricultural horse, he should not have cost his owner on the average more than 4s. a week at most till he is three years old. In his third year he should have contributed something substantial towards his keep in work on the farm, but to be safe we will put that against shoeing and other incidental expenses. He

will thus, at the outside, have cost his owner £31 : 4s. to bring him to a saleable age and condition—a cost that leaves a fair margin of profit if he sells at £40 or £45, and an excellent return if he is good enough to sell to the railway companies, carriers, and others, who frequently give £60 to £80, or even more, for their strong horses. If the horse belongs to the other lighter classes he may, when all is added, have cost his owner on an average £12 a year, though I should put it at £10 myself. Taking the higher figure, however, he will have cost his owner, at four years old, £48 to bring into marketable condition ; and such young horses, if they have been bred and reared with care, will average badly if they are not worth £65 or £70 apiece ; while over a course of years some are sure to bring prices well enough over three figures to ensure the breeder against any losses, misfortunes, and disappointments. It is extremely difficult to draw up a general statement of profit and loss applicable to horse-breeding, but the following estimates may assist the breeder to form his own calculations :—

An estimate of profit and loss on breeding off a pair of *working mares* suited for breeding good half-bred stock, with favourable results as to foals, and selling at four years old (broken in). The average production of likely mares will be 2 foals in three years, *i.e.* one mare with another will miss once in every three years.

| FIRST YEAR (2 FOALS). | | Cr. | |
|--|----------|--|----------|
| One three-year-old mare in foal | £30 0 0 | Labour of 2 mares, 200 days at 5s. per day | £50 0 0 |
| " four-year-old " | 40 0 0 | Value of four-year-old mare | 40 0 0 |
| Hay, grass, straw, etc., at 4s. per week each for 52 weeks (£20 : 16s.) | 21 0 0 | " five-year-old " | 40 0 0 |
| Corn, etc., for 200 days, at 1½ peck each day, at 18s. per qr. | 8 8 9 | " 2 foals | 20 0 0 |
| One year's interest on first cost of mares at 5 per cent. | 3 10 0 | | |
| Shoeing | 2 0 0 | | |
| Service fees, often less, and half fees for no foal | 4 5 0 | | |
| Keep for 2 foals at £4. The foals will require something beyond grass after they are weaned in October and perhaps before this | 8 0 0 | | |
| Profit | 32 16 3 | | |
| | £150 0 0 | | £150 0 0 |

SECOND YEAR (2 FOALS).

| | | | | | | | |
|---|-------|----|----|---|-------|---|---|
| Value of 2 mares | £80 | 0 | 0 | Labour of 2 mares | £50 | 0 | 0 |
| „ 2 foals | 20 | 0 | 0 | Value of 2 mares five and six years old | 80 | 0 | 0 |
| Hay, grass, etc., for 2 mares | 21 | 0 | 0 | „ 2 yearlings | 40 | 0 | 0 |
| Corn, etc., „ | 8 | 8 | 9 | „ 2 foals | 20 | 0 | 0 |
| Interest on first cost of „ | 3 | 10 | 0 | | | | |
| Shoeing | 2 | 0 | 0 | | | | |
| Service fees | 4 | 5 | 0 | | | | |
| Keep of 2 yearlings at £8 each, say— | | | | | | | |
| 26 weeks at 2s. | £2 | 12 | 0 | | | | |
| 26 „ 4s. | 5 | 4 | 0 | | | | |
| | <hr/> | | | | | | |
| | £7 | 16 | 0 | | | | |
| Keep of 2 foals | | 16 | 0 | 0 | | | |
| Profit | | 8 | 0 | 0 | | | |
| | | 26 | 16 | 3 | | | |
| | <hr/> | | | | | | |
| | £190 | 0 | 0 | | £190 | 0 | 0 |
| | <hr/> | | | | <hr/> | | |

Estimate of profit and loss on breeding off a pair of working mares—*Continued.*

| | THIRD YEAR (1 FOAL). | | | |
|---|----------------------|-------------|----------|-------------|
| | Dr. | Cr. | | |
| Value of 2 mares five and six years old | £80 | 0 | 0 | £50 |
| 2 two-year-olds | . | 40 | 0 | 0 |
| 2 yearlings | . | 20 | 0 | 0 |
| Hay and grass, etc., for 2 mares | . | 21 | 0 | 0 |
| Corn, etc., | . | 8 | 8 | 9 |
| Interest on first cost | . | 3 | 10 | 0 |
| Shoeing | . | 2 | 0 | 0 |
| Service fees | . | 4 | 5 | 0 |
| Keep of 4 young horses at £8 each | . | 32 | 0 | 0 |
| Keep of 1 foal at £4 | . | 4 | 0 | 0 |
| Profit | . | 20 | 16 | 3 |
| | | <u>£236</u> | <u>0</u> | <u>0</u> |
| | | | | <u>£236</u> |
| | | | | <u>0</u> |
| | | | | <u>0</u> |

Note.—The saving effected by breeding off the two-year-olds or three-year-olds, or the value of the labour of any of the young stock, is left out in these estimates.

FOURTH YEAR (1 FOAL).

| | | | | | | | |
|--|----------------------|----|---|---|----------------------|---|---|
| Value of 2 mares six and seven years old . | £76 | 0 | 0 | Labour of 2 mares seven and eight years old | £50 | 0 | 0 |
| " 2 three-year-olds . | 60 | 0 | 0 | Value of | | | |
| " 2 two-year-olds . | 40 | 0 | 0 | less depreciation at 5 per cent . | | | |
| " 1 yearling . | 10 | 0 | 0 | Value of 2 three-year-olds . | 72 | 4 | 0 |
| Hay, grass, etc., for 2 mares . | 21 | 0 | 0 | " 2 two-year-olds . | 80 | 0 | 0 |
| Corn, etc., " . | 8 | 8 | 9 | " 1 yearling . | 60 | 0 | 0 |
| Interest on first cost " . | 3 | 10 | 0 | " 1 foal . | 20 | 0 | 0 |
| Shoeing . | 2 | 0 | 0 | | 10 | 0 | 0 |
| Service fees . | 4 | 5 | 0 | | | | |
| Keep of 5 young horses at £8 | 40 | 0 | 0 | | | | |
| " 1 foal . | 4 | 0 | 0 | | | | |
| Profit . | 23 | 0 | 3 | | | | |
| | <hr/> £292 4 0 <hr/> | | | | <hr/> £292 4 0 <hr/> | | |

Note.—Nothing is charged for attendance to young stock, it being presumed that such attention as they require they will receive from the farmer and from the ordinary farm staff when occupied in tending the rest of the live stock.

Estimate of profit and loss on breeding off a pair of working mares—*Continued.*

FIFTH YEAR (2 FOALS).

| <i>Dr.</i> | | | | <i>Cr.</i> | | | |
|--|------|----|---|--|-----|------|------|
| Value of 2 mares seven and eight years old | £72 | 4 | 0 | Labour of 2 mares eight and nine years old | £50 | 0 | 0 |
| “ 2 four-year-olds | . | . | . | Value of | “ | “ | |
| “ 2 three-year-olds | . | . | . | less depreciation at 5 per cent. | . | . | |
| “ 1 two-year-old | . | . | . | Sale of 1 four-year-old | . | . | |
| “ 1 yearling | . | . | . | “ | “ | “ | |
| Hay, grass, etc., for 2 mares | . | . | . | Value of 2 three-year-olds | . | . | |
| Corn, etc. | . | . | . | 1 two-year-old | . | . | |
| Interest on first cost | . | . | . | “ 1 yearling | . | . | |
| Shoeing | . | . | . | “ 2 foals | . | . | |
| Service fees | . | . | . | | | | |
| Keep of 6 young horses | . | . | . | | | | |
| “ 2 foals | . | . | . | | | | |
| Breaking 2 four-year-olds | . | . | . | | | | |
| Profit | . | . | . | | | | |
| | £413 | 11 | 9 | | | £413 | 11 9 |

ESTIMATED PROFIT.

| | | | | | | | |
|-------------|---|---|---|---|---|---|----------|
| First year | . | . | . | . | . | . | £32 16 3 |
| Second year | . | . | . | . | . | . | 26 16 3 |
| Third year | . | . | . | . | . | . | 20 16 3 |
| Fourth year | . | . | . | . | . | . | 23 0 3 |
| Fifth year | . | . | . | . | . | . | 72 0 0 |
| | | | | | | | <hr/> |
| | | | | | | | £175 9 0 |

Note.—The value of the labour of a mare is put down at the lowest figure, for it is estimated as worth only 2s. 6d. per day for only 200 days in the year. If the labour of the mare was valued at 2s. 6d. for 300 days in the year, a not unfair supposition, her labour would stand to credit at £75 instead of £50 in each year.

Estimate of profit and loss on breeding off *an absolutely idle mare* valued at £20.

| | | FIRST YEAR (A FOAL). | | | | | |
|---|---|-----------------------|---|---|---------|---|-----|
| <i>Dr.</i> | | <i>Cr.</i> | | | | | |
| | | Value of mare | | | | | |
| | | foal | | | | | |
| | | Loss | | | | | |
| One mare in foal . . . | . | £20 | 0 | 0 | . | . | £20 |
| Hay, grass, etc. . . . | . | 10 | 0 | 0 | . | . | 10 |
| Year's interest on cost at 5 per cent . . . | . | 1 | 0 | 0 | . | . | 7 |
| Service fees | . | 2 | 2 | 6 | . | . | 2 |
| Keep of foal latter part of year . . . | . | 4 | 0 | 0 | . | . | 6 |
| | | £37 | 2 | 6 | | | |
| | | | | | £37 2 6 | | |
| | | SECOND YEAR (A FOAL). | | | | | |
| | | Value of mare | | | | | |
| | | yearling | | | | | |
| | | foal | | | | | |
| | | Loss | | | | | |
| One mare value | . | £20 | 0 | 0 | . | . | £20 |
| Value of yearling | . | 10 | 0 | 0 | . | . | 20 |
| Hay, etc. | . | 10 | 0 | 0 | . | . | 10 |
| Interest | . | 1 | 0 | 0 | . | . | 5 |
| Service fees | . | 2 | 2 | 6 | . | . | 2 |
| Keep of foal | . | 4 | 0 | 0 | . | . | 6 |
| Keep of yearling | . | 8 | 0 | 0 | . | . | |
| | | £55 | 2 | 6 | | | |
| | | | | | £55 2 6 | | |

THIRD YEAR (A FOAL).

| | | | | | | | |
|----------------------------------|-----|---|---|--------------------------|-----|---|---|
| One mare | £20 | 0 | 0 | Value of mare | £20 | 0 | 0 |
| Hay, etc. | 10 | 0 | 0 | ” two-year-old | 30 | 0 | 0 |
| Interest | 1 | 0 | 0 | ” one-year-old | 20 | 0 | 0 |
| Service fees | 2 | 2 | 6 | ” foal | 10 | 0 | 0 |
| Value of two-year-old | 20 | 0 | 0 | ” Loss | 3 | 2 | 6 |
| ” one-year-old | 10 | 0 | 0 | | | | |
| Keep of 2 young horses | 16 | 0 | 0 | | | | |
| ” foal | 4 | 0 | 0 | | | | |
| | £83 | 2 | 6 | | £83 | 2 | 6 |

FOURTH YEAR (NO FOAL).

| | | | | | | | |
|-----------------------------------|------|---|---|----------------------------|------|---|---|
| Mare | £20 | 0 | 0 | Value of mare | £20 | 0 | 0 |
| Hay, etc. | 10 | 0 | 0 | ” three-year-old | 40 | 0 | 0 |
| Interest | 1 | 0 | 0 | ” two-year-old | 30 | 0 | 0 |
| Service fees | 2 | 2 | 6 | ” one-year-old | 20 | 0 | 0 |
| Value of three-year-old | 30 | 0 | 0 | No foal | 0 | 0 | 0 |
| ” two-year-old | 20 | 0 | 0 | ” Loss | 7 | 2 | 6 |
| ” one-year-old | 10 | 0 | 0 | | | | |
| Keep of 3 young horses | 24 | 0 | 0 | | | | |
| | £117 | 2 | 6 | | £117 | 2 | 6 |

| <i>Dr.</i> | | | | | <i>Cr.</i> |
|----------------------------|---|---|---|----------|-----------------|
| First year—Loss | . | . | . | £7 2 6 | |
| Second year | " | . | . | 5 2 6 | |
| Third year | " | . | . | 3 2 6 | |
| Fourth year | " | . | . | 7 2 6 | |
| Fifth year | . | . | . | ... | Profit £34 15 6 |
| Loss | . | . | . | £22 10 0 | Profit £34 15 6 |
| | | | | | 22 10 0 |
| Excess of profit over loss | . | . | . | . | £12 5 6 |

Note.—If the horse was sold for £100 or £120 the profit would exceed loss by £22:5:6 and £42:5:6 respectively.

It is over a course of years rather than in any one year that horse-breeding yields its profits. Farmers in Yorkshire often sell their foals, especially Cleveland and coaching colt foals ; they are sold on the farm or at local shows, at the dam's foot in the summer, and are usually delivered in October. The price obtained from the foreign and home buyer for such colt foals in the last few years has averaged over £30 apiece ; whilst I have seen prize foals sold for as much as £60. When this can be done, as it is done in Cleveland, horse-breeding is often very remunerative and risk is reduced to a minimum, the whole price for such a foal being practically found money, as, except the original service fee, he has cost very little. With regard to selling young hunters, a farmer who hunts himself, or whose sons ride the young horses, should ride to sell ; he should go out often for an hour or two rather than try to distinguish himself and his horse in long days with hounds. He should be careful and bold, riding fearlessly but with judgment ; and when hounds are not running, teaching his horse to stand still at covert side, to go kennel fadge with the hounds, as well as to be in the first flight in a fast run ; having had one good spin and jumped a few big places, he should take his hunter quietly home without paying calls on the way. A young hunter should be taught to be handy at opening gates, and to jump anything and everything in reason on the farm before he sees hounds, as nothing is more likely to earn a good horse a bad reputation as to see a conflict of opinion between him and his rider in the hunting field. Many a brilliant and promising young horse has

been ruined in the attempt to teach it the most rudimentary lessons in the hurry of the mounted field ; that is not the place for elementary instruction, but where the education should be completed.

Through the market, the fair, the dealer, and the private buyer, there is seldom wanting an opportunity to sell a good horse, but the saying is true that you may run to buy, but you must stand to sell, and each man must judge for himself when it is wisdom to take an offer and when it is wise to wait. The men who do best are those who take a fair profit as soon as they see it ; many too often forget how soon the expense of keeping a horse on, the loss of interest on the money, and the want of the money, run away with any extra price that is afterwards obtained. It is seldom worth while to lose a customer for a difference of £5 between the buyer and seller, especially if there is a probability that the horse may have to wait six months without any certainty of making its price, putting aside altogether risks of accidents and illness. We have all of us often seen an owner proud of his horse, when offered a good price which would leave him a large profit, stand out for a bit more, and, in the end, after keeping him a year or perhaps two years, sell him for less than he had had originally offered ; or, worse still, the horse has become damaged or gone amiss, and has to be sold at a heavy loss.

It is no new criticism to pass on farmers that they are bad hands at combining to protect themselves, and in co-operating to push their own interests. The butcher, the miller, the brewer, the dealer, and others are generally able to take advan-

tage of a divided and undisciplined host. Hard times and the spread of co-operative principles have taught farmers in some districts that they must depend mainly upon themselves for any development of their interests. Co-operation has been applied with success in some parts of England to horse-breeding by the formation of stallion clubs, which have for their object the procuring of suitable sires to travel certain districts. This policy is most commendable, and is simple and practicable anywhere where there are two or three enterprising men with the question at heart. In my own neighbourhood good agricultural stallions have been provided in this way for some time past, and it may possibly be useful to describe the method, or one of the methods, of procedure. A few farmers meet together, review the position, discuss the necessity of a first-rate sire and the means of procuring one, and the sources from whence funds can be obtained, and then call a meeting of farmers, landlords, agents, and others to consider their suggestions. It will be a poor district indeed that cannot find a few landed proprietors willing to subscribe their £5 or £10 apiece to so excellent an object. If there is not enough subscribed at once, with a little organisation and going round with the hat amongst those interested in horses, £100 to £200 is raised without great difficulty. The subscribers meet to decide on the class of horse that is most required, and there are generally two candidates—the Shire and the Clydesdale—which go to the poll. Supposing the Clydesdale to have got the majority of votes, a committee of two or three is appointed to go to

Glasgow, Dumfries, or some other suitable place, to hire the best horse they can find for their money for the ensuing season. This horse then travels the district at a reasonable fee—say £1 at the end of his season, and £1 when the mare proves in foal. Where such a horse proves a good sire an effort should be made to continue its services if sufficient funds are not forthcoming to purchase it. There must be many districts in which this principle might be adopted, and where funds could easily be raised for placing Shire, Clydesdale, or other stallions of the highest class within the reach of tenant-farmers. If this were done, it would result in a great improvement in agricultural and heavy horses.

CHAPTER X

AILMENTS AND DISEASES

IN all serious ailments and accidents a veterinary surgeon should be called in. But a few brief notes indicating the direction in which "first aid" should be given may be of use to those who are unable to obtain the services of a good veterinary without delay. To this is added some information with regard to those maladies or misfortunes which an owner of horses is competent to deal with himself.

Shoeing

A horse without sound feet is useless. The utility of thousands of horses is impaired or destroyed by bad shoeing. The knife should be used very sparingly *if at all* on the sole and frog of a healthy hoof. The frog should be left, if possible, so as to touch the ground with the shoe on. The bars and heels should not be weakened and opened by the knife. Shoes for light horses should be light and open at the heel, and the inner heel of the shoe should generally be thicker than the outer heel, as the former is the weaker and usually a little farther off the ground. The walls of the hoof should never be

weakened by rasping. For cart horses, if caulking is necessary, the caulks should be the same height as the toe-piece.

Lameness in Horses

For the purpose of examining a horse as to the soundness of his feet and limbs his step may be divided into four separate actions, namely—

- (1) The “lift”—The moment the foot leaves the ground.
- (2) The “step”—The moment the foot comes forward in lifting or falling.
- (3) The “pose”—The moment the foot reaches the ground.
- (4) The “rest”—The time during which the foot is placed on the ground and receives some of the body’s weight.

In a sound horse these four movements are equal when he walks or trots with his head free, but pain will make the “lift” quicker, the time of the “step” longer, the “pose” slower, and the “rest” as quick as possible. It is usually easy enough, if the lameness is well marked, to see that the horse is lame, and where or when he is lame, but in slight lameness it is often difficult to detect the seat or cause.

In such cases, the horse should be trotted slowly at first on hard ground, with his head as free as possible, and the “pose” of the sound as well as of the suspected leg watched carefully; he should be turned round to the near side and afterwards to the

off slowly and then sharply. If the seat of mischief is not then detected go through the same process with a man on his back, who must *sit still without touching his head*, for the head often indicates the unsound limb. The head drops when the sound forefoot is on the ground, and lifts when the lame forefoot goes down, in order to put the weight of the head and neck on the sound foot. But the order is reversed if the horse is lame behind—that is, the horse's head “bobs” on the lame side and lifts on the sound. The crupper may also show unsoundness by a “wobbling” or irregular balancing.

In shoulder lameness, the leg is lifted and comes forward with difficulty with a tendency to “mow” or to describe a curve.

Clean, well - lighted, well - ventilated but not draughty stables, clean habits in those attending to horses, good food and pure water, will keep off most diseases, maintain horses in health, and prove true economy. A little extra care in keeping the litter and bedding dry and sweet, a little extra trouble bestowed in grooming and washing horses' feet out, will keep the skin healthy, and prevent the risk of thrush and cracked heels and many other evils that lead to loss and expense.

Spavin (Bone Spavin)

Spavin is a bony enlargement on the inner and lower part inside the hock ; and the higher up the bony deposit is situated the more serious it is. A small spavin in an old horse that goes sound may be of little consequence, but any appearance in a

young horse is reason for anxiety, as the spavin is liable to grow. The disease can be detected by the eye, the hand, and by noticing the flexion of the hock. A horse with bad spavin may, when warm, walk into a stable sound, but if he is brought out cool an hour after he will be certain to betray his unsoundness.

Cause.—The result of a strain or injury ; or heredity.

Treatment.—The best cure for incipient spavin is complete rest, good *nouriture*, and blistering. If there is inflammation, apply hot fomentations or poultices. In worse cases a seton may be tried, or firing, or punching.

Curb

Nine horses out of ten with curb can be made perfectly sound for practical purposes. Curb is, whatever its cause or nature, observed by a bulging-out or filling on the back of the hock.

Cause.—Strain ; formation ; heredity.

Treatment.—Complete rest. Remove hind shoes and replace with high-heeled shoes to relieve tension on the back sinew ; keep plenty of cold water going on the affected part ; cold bandages ; and cold hose pipe. When swelling is reduced and heat gone, blister ; if one blister does not remove the curb repeat it up to four or five times. If this treatment fails, fire. Personally, in any serious case of curb, I would fire at once, my experience being that firing has never failed to remove all future liability to lameness. Firing is the most certain remedy.

Thoroughpin

Thoroughpin is shown by swellings, soft or hard, on both sides of the hock, under the tendon which is attached to the cap of the hock. If they are soft, they are usually wind-galls, and except in appearance, of little moment. They are the result of strain, overwork, or constitutional local weakness.

Treatment.—Rest ; cold water ; friction ; pressure by truss or bandage.

Bog Spavin

This disease resembles a wind-gall in its character and is situated inside the hock joint. For practical work it is of no great consequence ; it is, however, an unsightly sign of local weakness that pulls down a horse's value.

Capped Hock

Capped hock is due to kicking in the stable, or in harness, or to standing and slipping in badly-paved stables.

Treatment.—Cold water and friction ; hobble the hind legs if a kicker.

Sandcrack

This is generally a crack from the coronet down the hoof.

Treatment.—Pare out the crack and cut off the crack above and below by searing with a hot iron ; rest, and keep the crack clean with antiseptic lotion.

Seedy Toe

This is a parting of the crust of the coronet from the soft horn at the toe of the foot.

Treatment.—Send for a good farrier or vet.

Navicular Disease

Navicular disease of the foot is very serious, and is ulceration of the interior of the hoof. The symptoms are great lameness. There is always likelihood of recurrence when the horse is worked.

Cause.—Blows or bruises on the sole ; concussion ; heredity.

Treatment.—Hot baths for the feet ; hot swabs ; perfect rest for some months ; and a cooling diet.

Laminitis

Laminitis, or fever in the feet, may come on suddenly after a hard day on hard ground. The symptoms are great pain in the forefeet, and a continual endeavour to get the weight off the forefeet, which are thrust forward.

Cause.—Concussion ; galloping on a hard road.

Treatment.—Sling the horse if possible to stable beams with ropes, to take the weight off the forefeet, placing a rug under the body ; or use a pair of cart-shafts. Remove shoes if possible, if necessary by soaking feet in hot water, and send for a vet.

Scour

This disease is very common in foals, and serious if it lasts more than a few days. If scour continues,

attend to the feeding of the mare with care, and give the foal two tablespoonfuls from time to time of 2 oz. of camphor dissolved in 2 oz. of spirits of wine diluted in about half a pint of water. With this simple remedy I have saved the life of a foal almost reduced to its last gasp.

Broken Knees

Treatment.—Keep the wound clean, and bathe constantly every hour with arnica lotion. If badly broken send for the vet.

Sore Withers and Back

Treatment.—Complete rest till quite healed and sound is the only way. When there is an abscess or fistulous tendency send for the vet.

Brushing Behind

This is generally due to weakness. Young horses often grow out of it.

Treatment.—On the first symptoms, before the skin on the fetlocks is injured, put on a cloth boot, tied above the joint so that it falls over it, and see that the hind shoes are slightly within the hoof on the inside, so that they cannot cut.

Brushing in Front, or Speedy Cut

Treatment.—If a habit, sell as soon as possible.

Thrush

The symptoms of common thrush are soft or

rotten condition of the frog, with a fetid discharge from the cleft, which cleft is absent or nearly so in the healthy foot.

Cause.—Due to contracted feet, or standing on rotten litter.

Treatment.—Careful shoeing and paring of rotten parts ; constant washing and attention to litter ; and a temporary introduction of Stockholm tow and tar into the cleft, with or without 1 part to 10 of sulphate of copper. The cleft which appears with thrush will extend if neglected. To avoid thrush, the litter in the stable should be kept dry and clean. If it is desirable to save straw, great economy may be practised by the use of sawdust, which can generally be obtained at a nominal price. When this is spread thickly, all droppings removed daily, and the sawdust raked over every morning, it forms a clean, wholesome, and cheap substitute for straw, and does not require renewing for weeks. Sawdust manure is good for all soils on arable lands, and can be applied conveniently for top-dressing, or ploughed in with any crop, so that farmers who require their straw may use sawdust without hesitation. Tan and sawdust mixed also makes an excellent bed.

Acute Thrush

Cause.—"Stopping" the feet with cow dung, clay, and other beastliness is often the cause of thrush.

Treatment.—Fomentations ; poultices ; antiseptic lotions ; mashies ; green food ; constant washing of the feet.

Splints

Cause.—Bony deposits that come or are the result of blows, accidents, or concussion on the foreleg below the knee, also hereditary in tendency ; and are the cause of lameness or not, according to their situation. If situated near a tendon or the knee-joint a splint may be serious. A small splint often gives more pain while growing than when formed.

Treatment.—Rest and cold water. If there is heat and inflammation, fomentations and poultices. If the splint does not yield to this treatment, blister. In bad cases the splint can be removed by a surgical operation.

Ring-bone and Side-bone

The following are the symptoms of this disease : A filling or rising of the hoof ; inability to flex the pastern joint.

Cause.—Heredity.

Treatment.—Poultice ; rub in iodide of lead ointment.

Colic

Symptoms.—Head hangs ; breathing laboured ; rocking and restless motion of legs and body ; pawing ; swelling of the belly ; sweating ; intermittent or palpitating heart ; head from time to time turns to his flank.

Treatment.—If the result of over-eating green food, etc., a vet. should be sent for at once. Meanwhile give three balls, at intervals of half an hour each, composed of sulphuret of ammonia (2 drachms),

extract of gentian, powdered quassia ; and endeavour to keep the horse on his legs and walking about. If the abdomen is enormously distended and death imminent, *as a last resort* take a long, fine, narrow knife or instrument, and after nicking the skin on the left side below and well in front of the hip, make a deep narrow puncture and the accumulated gas will rush out of the colon. If an attack of colic continues, water and food should not be given.

In a case of ordinary colic, shake up 2 oz. of sulphuric ether and laudanum in half a pint of water, and give three doses at ten minutes' interval ; if no improvement, double the doses.

Inflammation of the Bowels

Symptoms.—Horse off his feed ; shivering fits ; colic ; quick, wiry pulse.

Cause.—Unsuitable food ; gorging after fasting and fatigue ; chill ; constipation.

Treatment.—Send for the vet. Meanwhile give drinks of the colic dose (sulphuric ether and laudanum) in smaller quantities and at slightly longer intervals. Hot fomentations, and rugs wrung out of very hot water, should be applied to the belly.

Sore Throat

Treatment.—Rub the throat outside with mustard and olive oil for ten minutes.

Chronic Cough

Treatment.—Clothe warmly ; give the horse some cut grass and rock-salt to lick.

Roaring and Whistling

This is detected in the stable by taking hold of the horse's head, and making a feint at him as if about to strike him on the flank. If a roarer he will snort or grunt—but some horses will grunt at this process when sound. Unsoundness in the wind is detected easily by listening to the "inspiration" in breathing after a good gallop or ten minutes' lunging.

Cause.—Heredity ; strangles ; influenza ; and bearing-reins.

Crib-biting and Wind-sucking

Cause.—The habit is fostered by impure or heated stables, or by anything likely to prejudice the horse's digestive powers ; but it is also due sometimes to "want of work" ; one crib-biter may often infect a whole stable with the habit.

Treatment.—This tiresome fault may be cured if the habit has not been too long indulged in. Prevention is better than cure, and mangers and racks should be made of iron or so constructed that a horse cannot lay hold of any part of the stable fittings within reach of him, with his teeth.

Influenza

This complaint is highly infectious and contagious.

Symptoms.—The white of the eye becomes yellow or red or both. The horse blows more or less and appears weak and lethargic ; runs at the eyes ; sore

throat ; looks "tucked up" ; discharges from the nose ; pulse low.

Treatment.—Never purge. Keep the horse warm, and give him good tepid gruel (linseed or oatmeal) whenever he will take it.

Staggers

Cause.—Over-feeding ; over-feeding after fasting, and over-drinking after over-feeding.

Treatment.—In violent cases send for the vet. In less violent cases, a quart of any oil, such as olive oil, should be given.

Lockjaw

Treatment.—Send for the vet.

Affections of the Eyes

Treatment.—Send for the vet.

Lampas

Treatment.—Do not operate for lampas ; give soft and cooling food ; consult a vet.

Inflammation of the Kidneys

Symptoms.—Back set up ; short breathing ; head frequently turned towards the loins ; head hanging ; a straggling gait ; and urine scanty. The test usually employed is pressure with the hand on the loins, when the horse will bend under or crouch.

Treatment.—Rub in mustard over the loins, and send for the vet.

Ringworm

Treatment.—Cleanliness. Wash with soap and hot water twice a day, and after drying apply an ointment made of oil of tar, $\frac{1}{2}$ oz. ; glycerine, 1 oz. ; spermaceti, 1 oz.

Warts

Treatment.—Where warts are numerous and small on young horses they often vanish with as much rapidity as they come, but where they are large and unsightly they can either be removed by a vet: with the knife ; strangled with a ligature of horse-hair or whip-cord till they drop off ; or burnt down with caustic, nitrate of silver, or sulphuric acid and sulphur powder mixed together.

Grease and Humour in the Legs

Cause.—Generally the result of dirty stables and neglect of cleanliness.

Treatment.—Apply as a lotion externally with a sponge, sulphate of copper, 2 oz. ; burnt alum, 1 oz. ; hot water, 1 pint ; dissolve the copper in the hot water and when cold add the alum. Give a dose of physic and follow with this powder after the physic has worked off : nitrate of potash, 4 oz. ; sulphur, 8 oz. ; black antimony, 2 oz. ; the three ingredients to be mixed and one tablespoonful given daily.

Cracked Heels

Treatment.—If bad, rest. Wash with soap and warm water, dry, and apply as a lotion several times

daily : glycerine, half pint ; chloride of zinc, 2 drachms ; solution of oak bark, 1 pint ; dissolve the zinc in water and mix together.

Strangles

This complaint is contagious and serious.

Symptoms.—Cough ; discharge from the nostrils ; a dull eye ; hot mouth ; listlessness ; after two days, swelling under or behind the jaw ; fever ; swelling forms into an abscess ; fever and disinclination to swallow continue till the abscess bursts or is lanced.

Treatment.—Give a generous diet if he will eat ; if not, thin gruel and green food ; general care and good nursing. The throat may be rubbed with camphor and spirits of turpentine, or fomented with hot water, the throat after each fomentation being carefully covered up. *Do not purge.* Send for the vet. to lance the abscess when ready.

Glanders

Symptoms.—In early stages glanders may be difficult to detect, but the first symptoms are ulceration of the inside of the nostrils, with running from the nose and staring coat ; then the symptoms change to a regular stream of nasty matter from the nose.

Treatment.—Generally useless.

Worms—Tapeworm

The tapeworm should be got rid of at once, but should never exist in a colt that is bred from healthy stock and well done to.

Symptoms.—Starved appearance ; anus projects ; eye too bright.

Treatment.—Turpentine (spirits of) beaten up with yolk of egg, and mixed in tepid water given on an empty stomach. A foal should have 2 drachms of turpentine (spirits of) ; six months, 1 oz. ; one-year-old, $1\frac{1}{2}$ oz. ; two-year-old, 2 oz. ; three-year-old, 3 oz. ; four-year-old, 4 oz. Give a generous diet without hay for a while.

Worms—Lumbricii

Symptoms.—Easily detected in the dung ; are long, round, pointed worms, very common, but not so serious as tapeworms.

Treatment.—Give 2 drachms of tartarised antimony in a ball every morning before feeding till they are got rid of.

Worms—Strongyli

These worms are difficult to detect. They are about the size and appearance of hay chaff.

Treatment.—If suspected consult the vet., who will doubtless give an injection or worm powder.

Wind-galls

Treatment.—Rest ; cold bandages ; indiarubber bandages with flat corks to press on the wind-galls.

Wounds

Treatment.—Keep the wounds clean and do not

sew them up unless absolutely necessary, as the process of healing commences or should commence at the bottom of the wound.

Dentition in Horses

Much the best work for practical purposes that I know of on this subject is that by Mr. Sidney Galvayne, published by Murray and Son, 68 Buchanan Street, Glasgow. When Professor Galvayne was in this country he taught me more on this and other subjects in a couple of hours than I had learnt in ten years. To him and his works I would refer my readers for a simple and practically infallible method of telling the age of horses up to 30—as to describe his methods would in equity if not in fact be to infringe his “patent” and rights. The ordinary methods of reading the marks are so well known by every horse-owner that it would be idle for me to set them forth here, and if any reader is ignorant of this art he will learn more in one practical object-lesson from one who knows than from any amount of reading or looking at book plates.

FAIRS, ADDRESSES OF BREEDERS

Every good agricultural almanac publishes a list of the *Fairs* held in the United Kingdom, the addresses of *Breeders of Horses*, and a list of the various *Horse Shows*.

CONCLUSION

AND now let me, in conclusion, summarise very briefly the facts that I have endeavoured to set forth.

Times are bad and the agricultural interest is suffering acutely from the low prices of stock and produce, and from bad seasons. Farmers must leave no stone unturned to find a profitable expenditure for their time and capital, and must work out their salvation by wise enterprise. Horse-breeding, properly conducted, is now a profitable pursuit in many parts of the country, and therefore might be made remunerative in other parts having equal or superior advantages of climate, pasture, and proximity to markets. Horse-breeding should be made a part of the business of farming, but should be kept in its proper place as an accessory. The demand for good horses of every class is very great, and leaves an ample margin of profit. Our climate, soil, pastures, and breeds all give us a great advantage as horse-breeders, and therefore foreign competition need not be feared so long as horse-breeding is pursued by Englishmen with zeal equal to that of the foreigner. Thought and patience are requisite in this as in any other business, but few occupations afford so much

interest and pleasure. There is a wide choice of breeds to select from, and as a rule success attends the man who breeds the sort his heart most delights in. Breed only from good sound mares that, if possible, fill a useful place on the farm and earn their own living. To whatever class they belong, let them have substance, courage, and quality. Hold fast to the mare that is a good breeder. Use the best sire that can be found. Be liberal and generous in the treatment of the foal, and do not keep the growing youngster on short rations. Afford proper and well-ventilated shelter for your young stock in winter. And when you have done all this, and fail after a fair trial—a day that is never likely to arrive—then, and then only, can you say that horse-breeding is an unprofitable pursuit for the farmer.

APPENDIX

DURING the eight months ended 31st August 1894, there were 9355 horses exported from this country, against 7503 in 1893. Of these 289 were stallions, against 467 ; 2053 mares, against 2098 ; and 7013 geldings, against 4938. Of the geldings, 3036 went to Belgium, 2533 to Holland, and 1212 to France. The value of the horses exported was £290,852, against £351,088 in 1893, and £374,059 in 1892. The value of the stallions exported was only £27,234, against £68,951 in 1893 ; mares £104,029, against £133,734 ; and geldings £159,589, against £148,403. In the same period 15,614 horses were imported, against 10,177 in 1893, and 21,026 in 1892. Of these 674 were stallions, against 402 ; 3077 mares, against 2240 ; and 11,863 geldings, against 7535. Of the geldings 3305 came from Germany, 2759 (against 895) from the United States, and 2162 (against 863) from Canada. These last figures show where the increase in the imports has occurred, and they account for the superabundance of horses of a type suitable for the lighter town work which so seriously affects the demand for second-rate horses reared in this country. The value of the imports was £360,913, against £289,600 in 1893, and £425,336 in 1892. As regards the trade in horses between this country and North America, the tables are now completely turned. During the eight months the United States and Canada have paid us £34,150 for horses, while we have given them £219,081.

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